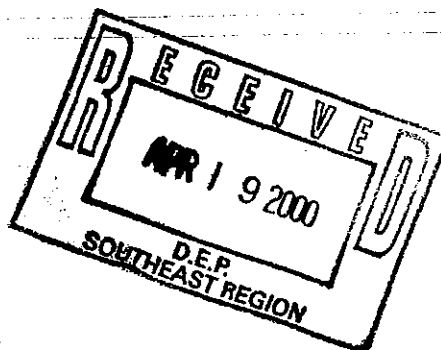


**RESPONSE ACTION OUTCOME STATEMENT  
545 ORCHARD STREET  
NEW BEDFORD, MASSACHUSETTS  
RTN 4-00688**

**APRIL 2000**

Harding Lawson Associates



April 12, 2000

Mr. James M. Kenny  
Department of Environmental Protection  
20 Riverside Drive  
Lakeville, MA 02347

RE: The Former Goodyear Tire & Rubber Company Site, New Bedford, MA; RTN #  
4-0688

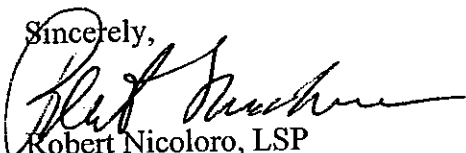
Dear Mr. Kenny:

Harding Lawson Associates (HLA) is submitting on behalf of The Goodyear Tire & Rubber Company (Goodyear), documents prepared in accordance with the Massachusetts Contingency Plan (MCP) identifying response actions undertaken at the subject site. This submission includes a Comprehensive Phase II Document, a Response Action Outcome Statement and LSP Opinion (RAO), an Activity and Use Limitation (AUL) document, and appropriate transmittal forms. Please note that the AUL has been filed with the Registry of Deeds as evidenced by the receipt attached to the AUL. Individual checks for MCP filing fees have been sent to the appropriate Boston account. A copy of each check is attached to the transmittal forms for each submittal.

As discussed in our call of March 14, 2000, HLA had completed each of the documents and distributed each document in final draft to Goodyear in May of 1999. Following this time Goodyear underwent organizational changes in its engineering department that led to extended review by the engineering department, legal department, and real estate group. HLA and a newly assigned Goodyear project engineer have completed all review and revisions during the later part of 1999 and into the year 2000. As a result of the lead-time taken to finalize the documents, HLA re-evaluated the submittals relative to October changes to the MCP. Modifications to these documents were made to comply with the revised MCP.

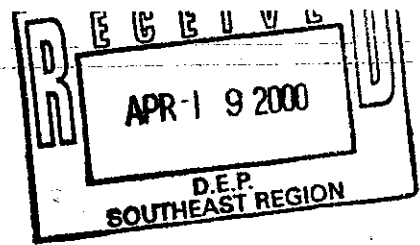
Should you have any questions, please do not hesitate to contact me at (781) 245-6606.

Sincerely,

  
Robert Nicoloro, LSP  
Principal

CC: J. Laubacher - Goodyear

Enclosures



**RESPONSE ACTION OUTCOME STATEMENT  
545 ORCHARD STREET  
NEW BEDFORD, MASSACHUSETTS  
RTN 4-00688**

*Prepared for:*

**The Goodyear Tire and Rubber Company  
1144 E. Market Street  
Akron, Ohio 44316**

*Prepared by:*

**Harding Lawson Associates  
107 Audubon Road  
Wakefield, MA 01880**

**PN: 02347.00**

**APRIL 2000**

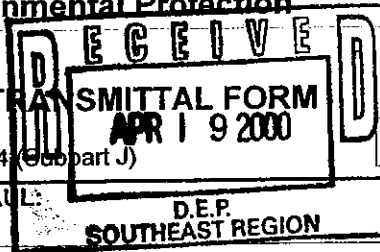


Massachusetts Department of Environmental Protection  
Bureau of Waste Site Cleanup

BWSC-113

ACTIVITY & USE LIMITATION (AUL) TRANSMITTAL FORM

Pursuant to 310 CMR 40.1056 and 40.1070 - 40.1084 (Subpart J)



Release Tracking Number

4 - 00688

A. LOCATION OF DISPOSAL SITE AND PROPERTY SUBJECT TO AUL:

Disposal Site Name: Former Manufacturing Site

Street: 545 Orchard Street

Location Aid: \_\_\_\_\_

City/Town: New Bedford

ZIP Code: 02740-0000

Address of property subject to AUL, if different than above:

Street: \_\_\_\_\_

City/Town: \_\_\_\_\_

ZIP Code: \_\_\_\_\_

☐ Check here if this Disposal Site is Tier Classified.

If the Disposal Site subject to the AUL is also subject to a Tier I Permit, provide the Permit Number: \_\_\_\_\_

Related Release Tracking Numbers affected by this AUL: \_\_\_\_\_

B. THIS FORM IS BEING USED TO: (check one)

- ☒ Submit a certified copy of a Notice of Activity and Use Limitation, pursuant to 310 CMR 40.1074 (complete all sections of this form).
- ☐ Submit a certified copy of an Amended Notice of Activity and Use Limitation, pursuant to 310 CMR 40.1081(4) (complete all sections of this form).
- ☐ Submit a certified copy of a Termination of a Notice of Activity and Use Limitation, pursuant to 310 CMR 40.1083(3) (complete all sections of this form).
- ☐ Submit a certified copy of a Grant of Environmental Restriction, pursuant to 310 CMR 40.1071, (complete all sections of this form).
- ☐ Submit a certified copy of an Amendment of Environmental Restriction, pursuant to 310 CMR 40.1081(3) (complete all sections of this form).
- ☐ Submit a certified copy of a Release of Environmental Restriction, pursuant to 310 CMR 40.1083(2) (complete all sections of this form).

You must attach all supporting documentation for the use of form indicated, including copies of any Legal Notices and Notices to Public Officials required by 310 CMR 40.1400.

C. AUL INFORMATION:

Date AUL was recorded and/or registered with Registry of Deeds and/or Land Registration Office: \_\_\_\_\_

Name of Registry of Deeds and/or Land Registration Office where AUL was recorded and/or registered: Bristol

Book and Page Number and/or Document Number of recorded and/or registered AUL: \_\_\_\_\_

D. PERSON SUBMITTING AUL TRANSMITTAL FORM:

Name of Organization: The Goodyear Tire & Rubber Company

Name of Contact: Richard Laubacher

Title: Project Manager

Street: 1144 E. Market Street

City/Town: Akron

State: OH ZIP Code: 44316-0000

Telephone: 330-796-2698

Ext.: \_\_\_\_\_

FAX: (optional) \_\_\_\_\_

E. OWNER OF PROPERTY, IF NOT PERSON SUBMITTING AUL TRANSMITTAL FORM:

Provide a mailing address for the owner of the property if that person is not submitting the AUL Transmittal Form. Provide addresses for additional owners on an attachment.

Name of Organization: \_\_\_\_\_

Title: \_\_\_\_\_

Name of Contact: \_\_\_\_\_

Street: \_\_\_\_\_

City/Town: \_\_\_\_\_

State: \_\_\_\_\_ ZIP Code: \_\_\_\_\_

Telephone: \_\_\_\_\_

Ext.: \_\_\_\_\_

FAX: (optional) \_\_\_\_\_



Massachusetts Department of Environmental Protection  
Bureau of Waste Site Cleanup

BWSC-113

ACTIVITY & USE LIMITATION (AUL) TRANSMITTAL FORM

Release Tracking  
Number

4

00688

Pursuant to 310 CMR 40.1056 and 40.1070 - 40.1084 (Subpart J)

F. RELATIONSHIP TO DISPOSAL SITE OF PERSON SUBMITTING AUL TRANSMITTAL FORM: (check one)

☒ RP or PRP Specify: ☒ Owner ☐ Operator ☐ Generator ☐ Transporter ☐ Other RP or PRP:

☐ Fiduciary, Secured Lender or Municipality with Exempt Status (as defined by M.G.L. c. 21E, s. 2)

☐ Agency or Public Utility on a Right of Way (as defined by M.G.L. c. 21E, s. 5(j))

☐ Any Other Person Submitting AUL Specify Relationship: \_\_\_\_\_

G. CERTIFICATION OF PERSON SUBMITTING AUL TRANSMITTAL FORM:

I, Richard Laubacher, attest under the pains and penalties of perjury (i) that I have personally examined and am familiar with the information contained in this submittal, including any and all documents accompanying this transmittal form, (ii) that, based on my inquiry of those individuals immediately responsible for obtaining the information, the material information contained in this submittal is, to the best of my knowledge and belief, true, accurate and complete, and (iii) that I am fully authorized to make this attestation on behalf of the entity legally responsible for this submittal. I/the person or entity on whose behalf this submittal is made am/is aware that there are significant penalties, including, but not limited to, possible fines and imprisonment, for willfully submitting false, inaccurate, or incomplete information.

By: Richard C. Laubacher  
(signature)

Title: Project Manager

For The Goodyear Tire & Rubber Company  
(print name of person or entity recorded in Section D)

Date: 4/7/00

Enter address of person providing certification, if different from address recorded in Section D:

Street: \_\_\_\_\_

City/Town: \_\_\_\_\_ State: \_\_\_\_\_ ZIP Code: \_\_\_\_\_

Telephone: \_\_\_\_\_ Ext. \_\_\_\_\_ FAX: (optional) \_\_\_\_\_

YOU MUST COMPLETE ALL RELEVANT SECTIONS OF THIS FORM OR DEP MAY RETURN THE DOCUMENT AS INCOMPLETE. IF YOU SUBMIT AN INCOMPLETE FORM, YOU MAY BE PENALIZED FOR MISSING A REQUIRED DEADLINE, AND YOU MAY INCUR ADDITIONAL COMPLIANCE FEES.



Harding Lawson Associates  
P.O. Box 7050  
Portland, ME 04112-7050  
(207) 775-5401

WELLS FARGO BANK  
11-24  
(210/8)

No. 8100001290

CHECK DATE: 11-APR-00  
CHECK NUMBER: 81-1290  
CHECK AMOUNT: \$1,050.00

PAY TO THE ORDER OF  
\$1,050.00  
Commonwealth of Massachusetts

*Julie Tenney*  
AMOUNTS IN EXCESS OF \$500.00  
REQUIRE TWO SIGNATURES

⑈8100001290⑈ ⑆121000248⑆4518 114038⑈

P.O. Box 7050  
Portland, ME 04112-7050  
(207) 775-5401

No. 8100001290

Harding Lawson Associates

DATE	INVOICE NO.	DESCRIPTION	AMOUNT
11-APR-00	81-1290	AUL - Former Manufacturing Site, 545 Orchard St, New Bedford AUL Transmittal Form BWSC-113 PN: 44056 TN: 0234700	\$1,050.00

**RESPONSE ACTION OUTCOME STATEMENT  
545 ORCHARD STREET  
NEW BEDFORD, MASSACHUSETTS  
RTN 4-00688**

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**RESPONSE ACTION OUTCOME STATEMENT  
545 ORCHARD STREET  
NEW BEDFORD, MASSACHUSETTS  
RTN 4-00688**

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**APPENDICES**

<b>Appendix</b>	<b>Title</b>
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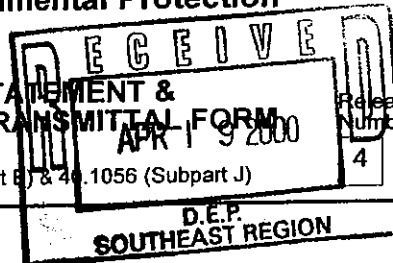


Massachusetts Department of Environmental Protection  
Bureau of Waste Site Cleanup

BWSC-104

RESPONSE ACTION OUTCOME (RAO) STATEMENT &  
DOWNGRADIANT PROPERTY STATUS TRANSMITTAL FORM

Pursuant to 310 CMR 40.0180 (Subpart B), 40.0580 (Subpart E) & 40.1056 (Subpart J)



Release Tracking  
Number  
4  
00688

A. SITE OR DOWNGRADIANT PROPERTY LOCATION:

Site Name: (optional) Former Manufacturing Site

Street: 545 Orchard Street

Location Aid: \_\_\_\_\_

City/Town: New Bedford

ZIP  
Code: 02740-0000

☒ Check here if this Site location is Tier  
Classified.

If a Tier I Permit has been issued, state the Permit  
Number: \_\_\_\_\_

Related Release Tracking Numbers that this Form  
Addresses: \_\_\_\_\_

If submitting an RAO Statement, you must document the location of the Site or the location and boundaries of the Disposal Site subject to this Statement. If submitting an RAO Statement for a PORTION of a Disposal Site, you must document the location and boundaries for both the portion subject to this submittal and, to the extent defined, the entire Disposal Site. If submitting a Downgradient Property Status Submittal, you must provide a site plan of the property subject to the submittal and, to the extent defined, the Disposal Site.

B. THIS FORM IS BEING USED TO: (check all that apply)

☒ Submit a Response Action Outcome (RAO) Statement (complete Sections A, B, C, D, E, F, H, I, J and L).

☐ Check here if this is a revised RAO Statement. Date of Prior  
Submittal: \_\_\_\_\_

☐ Check here if any Response Actions remain to be taken to address conditions associated with any of the Releases whose Release  
Tracking Numbers are listed above. This RAO Statement will record only an RAO-Partial Statement for those Release Tracking  
Numbers.

Specify Affected Release Tracking  
Numbers: \_\_\_\_\_

☐ Submit an optional Phase I Completion Statement supporting an RAO Statement or Downgradient Property Status Submittal  
(complete Sections A, B, H, I, J, and L).

☐ Submit a Downgradient Property Status Submittal (complete Sections A, B, G, H, I, J and K).

☐ Check here if this is a revised Downgradient Property Status  
Submittal.

Date of Prior  
Submittal: \_\_\_\_\_

☐ Submit a Termination of a Downgradient Property Status Submittal (complete Sections A, B, I, J and L).

☐ Submit a Periodic Review Opinion evaluating the status of a Temporary Solution (complete Sections A, B, H, I, J  
and L).

Specify one: ☐ For a Class C RAO ☐ For a Waiver Completion Statement indicating a Temporary  
Solution  
Provide Submittal Date of RAO Statement or Waiver Completion  
Statement: \_\_\_\_\_

You must attach all supporting documentation required for each use of form indicated, including copies of  
any Legal Notices and Notices to Public Officials required by 310 CMR 40.1400.

C. DESCRIPTION OF RESPONSE ACTIONS: (check all that apply)

☒ Assessment and/or Monitoring Only

☒ Removal of Contaminated Soils

☐ Re-use, Recycling or Treatment

☐ On Site ☒ Off Site Est. Vol.: 11000 cubic yards

Describe: TPH Impacted Soil

☐ Landfill ☐ Cover ☐ Disposal Est. Vol.: \_\_\_\_\_ cubic yards

☐ Removal of Drums, Tanks or Containers

Describe: \_\_\_\_\_

☐ Removal of Other Contaminated Media

Specify Type and  
Volume: \_\_\_\_\_

☐ Other Response Actions

Describe: \_\_\_\_\_

☐ Deployment of Absorbant or Contaminant  
Materials

☐ Temporary Covers or Caps

☐ Bioremediation

☐ Soil Vapor  
Extraction

☐ Structure Venting System

☐ Product or NAPL  
Recovery

☐ Groundwater Treatment  
Systems

☐ Air Sparging

☐ Temporary Water Supplies

☐ Temporary Evacuation or Relocation of  
Residents

☐ Fencing and Sign Posting

SECTION C IS CONTINUED ON THE NEXT PAGE.



Massachusetts Department of Environmental Protection  
Bureau of Waste Site Cleanup

BWSC-104

RESPONSE ACTION OUTCOME (RAO) STATEMENT &  
DOWNGRADIENT PROPERTY STATUS TRANSMITTAL FORM

Pursuant to 310 CMR 40.0180 (Subpart B), 40.0580 (Subpart E) & 40.1056 (Subpart J)

Release Tracking  
Number

4 - 00688

C. DESCRIPTION OF RESPONSE ACTIONS: (continued)

- ☐ Check here if any Response Action(s) that serve as the basis for this RAO Statement involve the use of Innovative Technologies. (DEP is interested in using this information to create an Innovative Technologies Clearinghouse.)

Describe  
Technologies:

D. TRANSPORT OF REMEDIATION WASTE: (if Remediation Waste was sent to an off-site facility, answer the following questions)

Name of Facility: D'Ambra Construction Co., Inc.

Town and State: Warwick, RI

Quantity of Remediation Waste Transported to Date: 11,000 Tons, November 1996

E. RESPONSE ACTION OUTCOME CLASS:

Specify the Class of Response Action Outcome that applies to the Site or Disposal Site. Select **ONLY** one Class:

- ☐ Class A-1 RAO: Specify one of the following:
- ☐ Contamination has been reduced to background levels. ☐ A Threat of Release has been eliminated.
- ☐ Class A-2 RAO: You **MUST** provide justification that reducing contamination to background levels is infeasible.
- ☒ Class A-3 RAO: You **MUST** provide both an implemented Activity and Use Limitation (AUL) and justification that reducing contamination to background levels is infeasible.
- If applicable, provide the earlier of the AUL expiration date or date the design life of the remedy will end: \_\_\_\_\_
- ☐ Class B-1 RAO: Specify one of the following:
- ☐ Contamination is consistent with background levels ☐ Contamination is **NOT** consistent with background levels.
- ☐ Class B-2 RAO: You **MUST** provide an implemented AUL.
- If applicable, provide the AUL expiration date: \_\_\_\_\_
- ☐ Class C RAO: ☐ Check here if you will conduct post-RAO Operation, Maintenance and Monitoring at the Site.
- Specify One: ☐ Passive Operation and Maintenance ☐ Monitoring Only
- ☐ Active Operation and Maintenance (defined at 310 CMR 40.0006)

F. RESPONSE ACTION OUTCOME INFORMATION:

- ☒ If an RAO Compliance Fee is required, check here to certify that the fee has been submitted. You **MUST** attach a photocopy of the payment.

- ☒ Check here if submitting one or more AULs. You must attach an AUL Transmittal Form (BWSC-113) and a copy of each implemented AUL related to this RAO Statement. Specify the type of AUL(s) below: (required for all Class A-3 RAOs and Class B-2 RAOs)

☒ Notice of Activity and Use Limitation ☐ Grant of Environmental Restriction

Number of AULs attached: 1

Specify the Risk Characterization Method(s) used to achieve the RAO described above and all Soil and Groundwater Categories applicable to the Site.

More than one Soil Category and more than one Groundwater Category may apply at a Site.  
Be sure to check off all APPLICABLE categories, even if more stringent soil and groundwater standards were met.

Risk Characterization Method(s)  
Used:

☐ Method 1

☐ Method 2

☒ Method 3

Soil Category(ies) Applicable:

☐ S-1

☐ S-2

☒ S-3

Groundwater Category(ies) Applicable:

☐ GW-1

☒ GW-2

☒ GW-3

- > When submitting any Class A-1 RAO or a Class B-1 RAO where contamination is consistent with background levels, do NOT specify a Risk Characterization Method.
- > When submitting any Class A-2 RAO or a Class B-1 RAO where contamination is NOT consistent with background levels, you cannot use an AUL to maintain a level of no significant risk. Therefore, you must meet S-1 Soil Standards, if using Risk Characterization Method 1.



Massachusetts Department of Environmental Protection  
Bureau of Waste Site Cleanup

BWSC-104

RESPONSE ACTION OUTCOME (RAO) STATEMENT &  
DOWNGRADIANT PROPERTY STATUS TRANSMITTAL FORM

Release Tracking  
Number

4 - 00688

Pursuant to 310 CMR 40.0180 (Subpart B), 40.0580 (Subpart E) & 40.1056 (Subpart J)

G. DOWNGRADIANT PROPERTY STATUS SUBMITTAL:

- ☐ If a Downgradient Property Status Submittal Compliance Fee is required, check here to certify that the fee has been submitted. You **MUST** attach a photocopy of the payment.
- ☐ Check here if a Release(s) of Oil or Hazardous Material(s), other than that which is the subject of this submittal, has occurred at this property.

Release Tracking  
Number(s):

☐ Check here if the Releases identified above require further Response Actions pursuant to 310 CMR 40.0000.

Required documentation for a Downgradient Property Status Submittal includes, but is not limited to, copies of notices provided to owners and operators of both upgradient and downgradient abutting properties and of any known or suspected source properties.

H. LSP OPINION:

I attest under the pains and penalties of perjury that I have personally examined and am familiar with this transmittal form, including any and all documents accompanying this submittal. In my professional opinion and judgment based upon application of (i) the standard of care in 309 CMR 4.02(1), (ii) the applicable provisions of 309 CMR 4.02(2) and (3), and (iii) the provisions of 309 CMR 4.03(5), to the best of my knowledge, information and belief,

> if Section B indicates that a Downgradient Property Status Submittal is being provided, the response action(s) that is (are) the subject of this submittal (i) has (have) been developed and implemented in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, (ii) is (are) appropriate and reasonable to accomplish the purposes of such response action(s) as set forth in 310 CMR 40.0183(2)(b), and (iii) complies(y) with the identified provisions of all orders, permits, and approvals identified in this submittal;

> if Section B indicates that either an RAO Statement, Phase I Completion Statement and/or Periodic Review Opinion is being provided, the response action(s) that is (are) the subject of this submittal (i) has (have) been developed and implemented in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, (ii) is (are) appropriate and reasonable to accomplish the purposes of such response action(s) as set forth in the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, and (iii) complies(y) with the identified provisions of all orders, permits, and approvals identified in this submittal.

I am aware that significant penalties may result, including, but not limited to, possible fines and imprisonment, if I submit information which I know to be false, inaccurate or materially incomplete.

- ☐ Check here if the Response Action(s) on which this opinion is based, if any, are (were) subject to any order(s), permit(s) and/or approval(s) issued by DEP or EPA. If the box is checked, you **MUST** attach a statement identifying the applicable provisions thereof.

LSP Robert Nicoloro LSP #: 4290 Stamp:

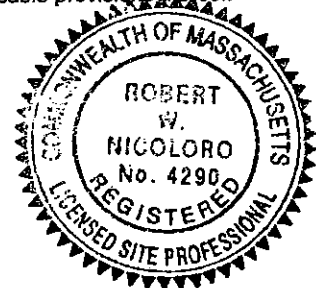
Name:

Telephone 781-245-6606 Ext.: 5632

FAX: 781-246-5068  
(optional)

Signature: [Signature]

Date: 4/12/00



I. PERSON MAKING SUBMITTAL:

Name of Organization: The Goodyear Tire & Rubber Company

Name of Contact: Richard Laubacher

Title: Project Manager

Street: 1144 East Market Street

City/Town: Akron

State OH ZIP Code: 44316-0000

Telephone: 330-796-2698

Ext.: \_\_\_\_\_

FAX: \_\_\_\_\_  
(optional)

J. RELATIONSHIP TO SITE OF PERSON MAKING SUBMITTAL: (check one)

- ☒ RP or PRP Specify: ☒ Owner ☐ Operator ☐ Generator ☐ Transporter Other RP or PRP: \_\_\_\_\_
- ☐ Fiduciary, Secured Lender or Municipality with Exempt Status (as defined by M.G.L. c. 21E, s. 2)
- ☐ Agency or Public Utility on a Right of Way (as defined by M.G.L. c. 21E, s. 5(j))
- ☐ Any Other Person Submitting This Form Specify \_\_\_\_\_



RESPONSE ACTION OUTCOME (RAO) STATEMENT &  
DOWNGRAIDENT PROPERTY STATUS TRANSMITTAL FORM

Pursuant to 310 CMR 40.0180 (Subpart B), 40.0580 (Subpart E) & 40.1056 (Subpart J)

Release Tracking  
Number

K. CERTIFICATION OF PERSON SUBMITTING DOWNGRAIDENT PROPERTY STATUS SUBMITTAL:

I, \_\_\_\_\_, attest under the pains and penalties of perjury (i) that I have personally examined and am familiar with the information contained in this submittal, including any and all documents accompanying this transmittal form; (ii) that, based on my inquiry of the/those individual(s) immediately responsible for obtaining the information, the material information contained herein is, to the best of my knowledge, information and belief, true, accurate and complete; (iii) that, to the best of my knowledge, information and belief, I/the person(s) or entity(ies) on whose behalf this submittal is made satisfy(ies) the criteria in 310 CMR 40.0183(2); (iv) that I/the person(s) or entity(ies) on whose behalf this submittal is made have provided notice in accordance with 310 CMR 40.0183(5); and (v) that I am fully authorized to make this attestation on behalf of the person(s) or entity(ies) legally responsible for this submittal. I/the person(s) or entity(ies) on whose behalf this submittal is made is/are aware that there are significant penalties, including, but not limited to, possible fines and imprisonment, for willfully submitting false, inaccurate, or incomplete information.

By: \_\_\_\_\_ Title: \_\_\_\_\_  
(signature)

For \_\_\_\_\_ Date: \_\_\_\_\_  
(print name of person or entity recorded in Section I)

Enter address of the person providing certification, if different from address recorded in Section I:

Street: \_\_\_\_\_  
City/Town: \_\_\_\_\_ State \_\_\_\_\_ ZIP Code: \_\_\_\_\_  
Telephone: \_\_\_\_\_ Ext. \_\_\_\_\_ FAX: (optional) \_\_\_\_\_

L. CERTIFICATION OF PERSON MAKING SUBMITTAL:

If you are completing only a Downgradient Property Status Submittal, you do not need to complete this section of the form.

I, Richard Lambacher, attest under the pains and penalties of perjury (i) that I have personally examined and am familiar with the information contained in this submittal, including any and all documents accompanying this transmittal form; (ii) that, based on my inquiry of those individuals immediately responsible for obtaining the information, the material information contained in this submittal is, to the best of my knowledge and belief, true, accurate and complete, and (iii) that I am fully authorized to make this attestation on behalf of the entity legally responsible for this submittal. I/the person or entity on whose behalf this submittal is made am/is aware that there are significant penalties, including, but not limited to, possible fines and imprisonment, for willfully submitting false, inaccurate, or incomplete information.

By: Richard C. Lambacher Title: Project Manager  
(signature)

For The Goodyear Tire & Rubber Company Date: 4-12-00  
(print name of person or entity recorded in Section I)

Enter address of the person providing certification, if different from address recorded in Section I:

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11-APR-00

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81-1288

PAY  
TO THE  
ORDER OF

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Commonwealth of Massachusetts

*Judith Tenney*  
*[Signature]*

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REQUIRE TWO SIGNATURES

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DATE	INVOICE NO.	DESCRIPTION	AMOUNT
11-APR-00	81-1288	RAO - Former Manufacturing Site, 545 Orchard St, New Bedford RAO Transmittal Form BWSC-104 PN: 44056 TN: 0234700	\$750.00



## SECTION 1

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### 1. INTRODUCTION

This Response Action Outcome (RAO) Report was prepared by Harding Lawson Associates (HLA, formerly ABB Environmental Services, Inc.) to support a RAO Statement for a site located at 545 Orchard Street in New Bedford, Massachusetts. The site is currently identified as Release Tracking Number (RTN) WSC/SA 4-00688. The Massachusetts Department of Environmental Protection (MADEP) issued the RTN as a result of a release of lubricating oils at the former manufacturing facility.

This RAO Report has been prepared in accordance with the Massachusetts Contingency Plan (310 CMR 40.0000, the MCP) to provide the necessary documentation to support a Class A-3 RAO Statement. Specifically, Section 40.1056(2) requires that all documentation, plans and/or reports necessary to support the RAO Statement shall be submitted to the Department, including, without limitation, the following:

- (a) as specified in 310 CMR 40.1003(4), a clear and accurate description of the location of the site or the location and boundaries of the Disposal Site or portion of the Disposal Site to which the RAO applies. Such description shall reference, to the extent practical, the location of the site, and location and boundaries of the Disposal Site or portion thereof relative to permanent or semi-permanent landmarks, and/or surveyed boundaries;*
- (b) for all Class A Response Action Outcomes and where applicable to Class C Response Action Outcomes, a demonstration that all uncontrolled sources, as specified in 310 CMR 40.1003(5) have been eliminated or controlled;*
- (c) for all Class A and B Response Action Outcomes, information supporting the conclusion that a level of No Significant Risk has been achieved or exists;*
- (d) for all Class C Response Action Outcomes, information supporting the conclusion that no substantial hazards remain at the Disposal Site;*
- (e) for all Class A Response Action Outcomes, information documenting the extent to which levels of oil and/or hazardous material in the environment have been reduced to background, and for all Class A-2 and A-3 RAOs, the results of the feasibility evaluation conducted pursuant to 310 CMR 40.0860 demonstrating that the achievement of background is not feasible;*

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## SECTION 1

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(f) *for all Class A-4 and B-3 Response Action Outcomes, the results of the evaluation conducted pursuant to 310 CMR 40.0860 demonstrating that the achievement of Upper Concentration Limits in Soil located at a depth greater than fifteen feet below the ground surface or in an area beneath an engineered barrier is not feasible;*

(g) *a copy of all Activity and Use Limitation certified by the appropriate registry of deeds or land registration office which have been implemented under 310 CMR 40.1070;*

(h) *where the RAO is based upon the implementation of an Activity and Use Limitation, an Activity and Use Limitation Opinion accompanied by an Activity and Use Limitation Opinion form prescribed by the Department as specified in 310 CMR 40.1071 or 310 CMR 40.1074, whichever is applicable;*

(i) *a description of any operation, maintenance, and or monitoring that will be required to confirm and/or maintain those conditions at the Disposal Site upon which the RAO is based; and*

(j) *for all Class C Response Action Outcomes, a copy of the plan, as specified in 310 CMR 40.0861(2)(h), which presents definitive and enterprising steps to be taken toward achieving a Permanent Solution at the Disposal Site.*

The above applicable documentation necessary to support a Class A-3 RAO Statement is included in this RAO Report.





## SECTION 2

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### 2. LOCATION AND BOUNDARIES OF THE DISPOSAL SITE

*40.1056(2)(a): as specified in 310 CMR 40.1003(4), a clear and accurate description of the location of the site or the location and boundaries of the Disposal Site or portion of the Disposal Site to which the RAO applies. Such description shall reference, to the extent practicable, the location of the site, and location and boundaries of the Disposal Site or portion thereof relative to permanent or semi-permanent landmarks, and/or surveyed boundaries;*

The site is a former manufacturing location first developed as a textile mill in the early 1890s by American Cotton Fabric Corporation. The Goodyear Tire & Rubber Company (Goodyear) purchased the mill in the 1920s for the manufacture of rubber tires and specialty rubber products. The property is located in New Bedford, Massachusetts and is bordered to the north by Swift Street, to the east by Orchard Street, to the west by Bolton Street, and to the south by the Howland Place Retail Mall complex (Figure 1). The Howland Place Mall complex is for the most part vacant at this time. The subject site is approximately 11 acres with no structures and is situated approximately 1,500 feet northwest of Clarks Cove within a high density, mixed urban residential/commercial/industrial zone of New Bedford. The property is graded as an open field lot and is completely fenced. The location of the boundaries of the Disposal Site (hereafter referred to as Disposal Site or Site) which is located on a portion of the property is shown in Figure 2.

### OHM SOURCE ELIMINATION AND CONTROL

*40.1056(2)(b) for all Class A Response Action Outcomes and where applicable to Class C Response Action Outcomes, a demonstration that all uncontrolled sources, as specified in 310 CMR 40.1003(5) have been eliminated or controlled;*

The Goodyear Tire & Rubber Company conducted facility decommissioning activities following the closure of the plant and removal of operations and equipment. Decommissioning activities included the removal by demolition of all structures on the property and preparation of the property for sale and future re-development. During the course of decommissioning activities, it was discovered that lubricating oils from machinery had been released to soil and groundwater at the site. Clean Harbors Environmental Services, Inc. (CHES) conducted Short Term Measures at the site and began a Phase II investigation. The Phase II investigation was continued by Roux Associates and completed by HLA. The disposal of soils containing oil and hazardous materials was documented in the previously submitted RAM Plan (Roux Associates - August 1996), and RAM Completion Report (January 1997).

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## SECTION 2

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Assessment actions conducted after the completion of RAM Response Actions indicated that lead, petroleum hydrocarbon, polycyclic aromatic hydrocarbon, and volatile organic compound residuals are present in the soil and groundwater at the Site. These are likely the result of various historic petroleum releases and coal ash used as fill throughout the Site.

Based on 1999 supplemental Phase II groundwater sampling conducted off-site and downgradient, oil and/or hazardous material (OHM) are not migrating from the site. Furthermore, no uncontrolled sources remain at the site. Concentrations of OHM on-site are below S-2 Soil Standards and below GW-2 Groundwater Standards and in certain locations on-site below GW-1 groundwater standards. Controls for potential exposure to soil and groundwater at the site have been established with a Notice of Activity and Use Limitation (AUL), which has been recorded for the site (Appendix A).

*Just above  
S-1 Standards*

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*S-2 Standards - Commercially  
no problems*



### 3. RISK CHARACTERIZATION

*40.1056(2)(c): for all Class A and B Response Action Outcomes, information supporting the conclusion that a level of No Significant Risk has been achieved or exists;*

HLA has conducted a Method 3 Risk Characterization (included with the Phase II Report, April, 1999), meeting the requirements of the MCP to evaluate whether a level of No Significant Risk has been achieved or exists at the site. Petroleum hydrocarbons, polycyclic aromatic hydrocarbons, lead and volatile aromatic contaminants are the focus of the Risk Characterization in the soil and in the groundwater.

The Risk Characterization used information compiled during the Phase II investigation at the site to assess the risk of harm to health, safety, public welfare, and the environment posed by OHM detected in soil and/or groundwater Table 1. The primary goal of this risk characterization is to provide quantitative and qualitative information necessary to evaluate the need for additional remedial action at the site. The risk characterization is used to identify and evaluate site conditions that may pose an imminent hazard or to establish whether a level of No Significant Risk has been achieved or exists at the site. The risk characterization compared site data to available background concentrations.

As required by the MCP, the compilation of site-specific information is necessary to adequately characterize the risk of harm to health, safety, public welfare, and the environment posed by contaminants present at the site. Compiled information includes physical characteristics of the site, the extent of release of OHM, and a characterization of contamination. This site-specific information is then used to identify potential current and future human and environmental receptors, site activities and uses, exposure points, exposure pathways, and exposure point concentrations (EPCs) of site-related OHM. The selection of these parameters provides a conservative estimate of the representative concentrations of OHM that a receptor may contact within the contaminated area over a period of time.

The results of the risk characterization were used to determine the need for remedial action or to demonstrate that a level of no significant risk of harm exists or has been achieved at the site.

### 3.1 RISK ASSESSMENT METHOD

There are currently three possible methods for characterizing risk to health, public welfare and the environment, which are described in 310 CMR 40.0940 through 40.0996. These methods characterize risk through the use of promulgated standards (Method 1), promulgated standards supplemented by site-specific information or proposed standards (Method 2), or the application of site-specific risk assessment methodologies (Method 3). A Method 3 Risk Assessment has been conducted for the site.

### 3.2 SITE ACTIVITIES AND USES

The site is located at 545 Orchard Street in New Bedford, Massachusetts (Figure 1) and occupies approximately 11 acres. The site is situated approximately 1,500 feet northwest of Clarks Cove within a high density, mixed urban residential/commercial/industrial zone. The De Vale elementary school is located within 0.25 mile of the site.

The former manufacturing complex included five major buildings, which housed production areas, a connecting header building, ancillary buildings, and narrow, paved access roads between the buildings. All buildings on the site have been demolished to below grade. Utilities have been shut down, disconnected, removed or cut and sealed, with the exception of the city sewer line, which runs through the site, connecting service from Bolton Street to Orchard Street. This line remains active, although it no longer services the facility.

Following the completion of demolition activities, the site was graded using clean fill and seeded in the fall of 1997. The entire site is enclosed by a locked, 8-foot-high, chain-link fence.

Under current use, potential human receptors are limited to people trespassing on the site. Potential receptors under reasonably foreseeable future conditions may include trespassers and utility and construction workers who may conduct excavation activities at the site. Consistent with site conditions and the requirements of the AUL, these full-time workers and visitors to potential future industrial, commercial, or retail facilities would not be exposed to soil or groundwater at the site. Under current conditions, trespassers are potentially exposed to surface soils. Utility and construction workers would be potentially exposed to surface and subsurface soils under future use, but controlled under the AUL.

Additional reasonably foreseeable uses of the Site would include industrial, commercial or retail development. Residential or recreational use of the site is restricted by the AUL. The following are permitted activities, prohibited activities, and uses at the site that are assumed as part of the risk assessment:

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### *AUL Permitted Activities*

- A maintained unused unpaved vacant lot, closed and secured;
- Commercial and industrial activities provided the property is either entirely covered by structures and materials such as concrete building foundations and flooring, concrete or asphalt pavement, or greater than three feet of clean fill placed on the existing grade;
- Construction, maintenance, repair, and improvements to the property including work on utilities, excavation, disturbance, or movement of subsurface strata in accordance with Soil Management procedures and worker health and safety procedures pursuant to under the Massachusetts Contingency Plan (MCP); and
- Other uses and activities which, in the opinion of an LSP, would present no greater risks than permitted uses identified here.

### *AUL Prohibited Activities*

- Uses resulting in direct contact soil exposure to receptors other than utility and construction workers for activities that could remobilize constituents in subsurface soils resulting in potential exposure to effected media by receptors other than utility and construction workers. It is possible, that upon further risk evaluation, one or more of those potential uses or activities may be consistent with the requirements of the MCP. Such activities include residential use, educational and day/care uses, and some indoor or out door recreational use; and
- Use of groundwater from beneath the site as a potable or non-potable water source.

Groundwater is not currently used for potable or non-potable purposes at and immediately downgradient of the site. Groundwater at the site is not classified as category GW-1. Therefore, no potable use of the groundwater is expected in the future. Groundwater, assumed to be tidally influenced, is expected to flow in an unconfined condition towards Clarks Cove and may be discharging to the cove or the bay. Based upon the location of the site in the urban area and the proximity of the ocean, the overall quality of the groundwater in the absence of the site is poor.

Environmental receptors at the site are expected to be limited to various passerine birds and small mammals. No habitats of rare or endangered species are known to be located at the site.

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## SECTION 3

### 3.3 NATURE AND EXTENT OF CONTAMINATION - BOUNDARIES OF THE DISPOSAL SITE

As depicted on Figures 3 through 5, the approximate release area encompasses a significant portion of the site beneath the former Buildings 2, 3, 4, 5, 7 and the former header building. The majority of the area is attributed to the release of lubricating oil. Based upon the physical nature of the lubricating oil and the fact that the majority of the site was either under the footprint of buildings or paved, it is unlikely the lubricating oil releases have migrated outside the footprints of the former buildings. The nature of the OHM released to soil included lubricating oil, volatile organic compounds, lead related primarily to fill, and polycyclic aromatic hydrocarbons related to both urban fill and former mill operations. Release to groundwater included lubricating oil, volatile organic compounds, and polycyclic aromatic hydrocarbons.

In December 1996, Roux Associates supervised the stockpiling and transport of approximately 11,000 tons of contaminated soil and construction debris to an asphalt batching facility at D'Ambra Construction Company in Rhode Island, conducted in accordance with the RAM Plan (August 1996).

Roux Associates collected groundwater samples from Geoprobess®, test pits and CHES wells and from Roux wells in three separate sampling rounds as part of the Phase II investigation. HLA continued assessment actions by installing four new wells in Orchard Street and collecting an additional round of groundwater samples. Based on the results of this round of groundwater samples, the site boundary has been identified as shown in Figure 2.

### 3.4 IDENTIFICATION OF SOIL AND GROUNDWATER CATEGORIES

Categories of groundwater and soil have been established in the MCP for use in the risk characterization of Disposal Sites. Groundwater categories are also used to identify applicable or suitably analogous standards when Method 3 is used to characterize risk. Additionally, the groundwater and soil categories selected for a site are considered in determining the need for an Activity and Use Limitation (AUL) as part of a Response Action Outcome in accordance with 310 CMR 40.1012 and 310 CMR 40.1070 through 40.1099.



### 3.5 SOIL CATEGORIES

Three possible soil categories have been identified in 310 CMR 40.0933. Soil is classified into either category S-1, S-2, or S-3 based on-site, receptor and exposure information. While one and only one category is applicable to a specified volume of soil, soils in different areas of a Disposal Site may be classified in different categories, depending on their exposure potential. Category S-1 soils are associated with the highest potential for exposure, while category S-3 soils have the lowest potential for exposure. The potential for exposure to soil is described by a qualitative analysis of the accessibility of the soil in combination with information concerning frequency and intensity of exposure for site activities and uses. Exposures to children, adults, and environmental receptors are considered.

The applicable surface soil (0-3 feet) categories for this site are as follows:

- Current conditions - S-1 category (unpaved, accessible soil, trespassers may be present at low frequency, low intensity).
- Possible future conditions - S-1 category (unpaved, potentially accessible soil, children may be present at low frequency, low intensity).

The applicable subsurface soil (0-15 feet bgs) categories for this site are as follows:

- Current conditions - S-3 category (unpaved, accessible soil, trespassers may be present at low frequency, low intensity).
- Possible future conditions - S-3 category (unpaved, potentially accessible soil, construction and utility workers may be present at low frequency, high intensity).

Although children may trespass onsite, fencing along the perimeter of the site discourages individuals from trespassing and prevents frequent or intense exposures from occurring. The provisions of the AUL are responsible for the limiting or eliminating soil exposures and for determining the soil categories identified for future land use.

### 3.6 GROUNDWATER CATEGORIES

Three possible groundwater categories are described in 310 CMR 40.0932; these consider the potential for three different types of exposure. Groundwater category GW-1 applies to groundwater that is or may reasonably be expected to be used as a source of potable water or is in close proximity to a public or private water supply. Groundwater that is within 30 feet of an occupied structure and has an average annual depth to the water table of less than or equal to 15 feet is in category GW-2. Groundwater category GW-2 is considered a potential source of OHM vapors to indoor air. Monitoring well MW-21 is located within 30 feet of the United Fishermans Club, and the groundwater in this area is considered GW-2. All other groundwater at the site is classified as category GW-3. Groundwater category GW-3 is considered a potential source of discharge to surface water.

The site is not within a Current Drinking Water Source Area because the site is not located within a Zone II, an Interim Wellhead Protection Area (IWPA), or the Zone A of a Class A surface water body. In addition, no known private drinking water supply wells are located within one mile of the site. The City of New Bedford is served by a series of reservoirs located several miles from the site.

The site is not within a Potential Drinking Water Source Area because it is within 500 feet of a public water distribution system, it is not within an area designated by a municipality specifically for protection as a source of potable water supply, and the groundwater below the site is not located within a mapped Potentially Productive Aquifer (PPA) according to the MassGIS site map (MADEP, 1997).

Based on the factors discussed above, the groundwater category at the site is not GW-1. Because of the proximity of the United Fishermans Club to the site, groundwater is classified as GW-2 in that area of the site. Groundwater at all Disposal Sites is considered to be a potential source of discharge to surface water, and is therefore categorized (at a minimum) as GW-3. Groundwater category GW-3 is applicable to this site. Groundwater beneath the site may potentially discharge to Clarks Cove.

### 3.7 IDENTIFICATION OF POTENTIAL HUMAN AND ENVIRONMENTAL RECEPTORS

There are four human receptor groups identified who could be exposed to contamination at or resulting from the site under existing and/or foreseeable future conditions:

1. trespassers
2. utility works
3. construction workers

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### 4. full-time industrial/commercial/retail worker (adult)

Under current use, potential human receptors are limited to people trespassing on the site. Potential receptors under future conditions may include trespassers and utility and construction workers conducting excavation activities at the site, and workers, should the site be redeveloped. Additional receptors could be present (e.g., maintenance worker/groundskeeper), but not exposed to contamination per terms of the AUL (because soil exposures controlled).

Under current conditions, there is a limited amount of terrestrial habitat at the site. Ecological receptors are expected to be limited to various passerine birds and small mammals. A Stage I Environmental Screening has concluded that there is an absence of potential significant exposure pathways for environmental receptors. Therefore, a condition of no significant risks of harm to site biota and any habitats exists.

### 3.8 IDENTIFICATION OF EXPOSURE POINTS AND EXPOSURE ROUTES

An exposure point is any point of potential contact by a receptor with a contaminated medium. Exposure routes are the way in which a population may come into contact with a contaminated medium, such as ingestion, dermal contact, or inhalation.

Potential exposure points and exposure routes were identified for surface soil, soil 0-15 feet bgs, groundwater and air.

The exposure points identified for soil include: surface soils that are accessible to trespassers under current use (and potentially future use if the site remains vacant); soils 0-15 feet bgs that are potentially accessible to utility workers under current and future use; and soils 0-15 feet bgs that are potentially accessible to construction workers under future use. No other soil exposures to other receptors are expected pursuant to the provisions of the AUL for the site. These provisions involve actions for the maintenance of the property as a vacant lot including secure site fencing and periodic inspections; construction activities and underground utility work conducted in accordance with a Soil Management Plan and worker Health and Safety Plan; commercial or industrial activities and uses provided the property is covered by structures, concrete, pavement of greater than three feet of clean fill; and other activities as deemed appropriate following evaluation of risk by an LSP. Soil exposure points encompass all locations where OHM has been identified in soil on the site.

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Under current and future use, a child trespasser may be exposed to accessible surface soils through ingestion and direct contact. Perimeter fencing will help to limit potential exposures to trespassers. Utility workers may be exposed to soils (via incidental ingestion and dermal contact and inhalation of soil particulates) and groundwater (via dermal contact only) during underground utility repair activities.

If the site is redeveloped in the future, a utility worker or construction worker could be exposed to surface and subsurface soils through ingestion and dermal contact. During excavation activities, utility workers and construction workers could be exposed via inhalation to constituents on wind-eroded soil particulates.

Under current and future conditions, trespassers may be exposed to surface soil onsite. Future exposures at the site to construction workers and utility workers could occur if excavation activities take place onsite. Routes of exposure would be incidental ingestion of and dermal contact with soil. In addition, excavation of soils could result in generation of dust, to which construction and utility workers might be exposed.

One groundwater exposure point has been identified for the evaluation of excavation worker dermal exposures to groundwater. This exposure point includes all groundwater where OHM has come to be located as shown in Figure 6. Depth to groundwater ranges from 4 to 15 feet bgs. There are no current potable or non-potable uses of groundwater at or downgradient of the site. However, construction workers (under future use) and utility workers (under current and future use) may contact the groundwater at that depth during excavation activities. The AUL will insure that there are no future potable or non-potable uses of the groundwater, which will prevent exposures to any other receptors.

Air exposures are limited to contaminants adsorbed to wind-eroded particles, or volatilized from contaminated soils to ambient air, and subsequently inhaled. During excavation activities, utility workers and construction workers and neighborhood residents or students or users of the adjacent playground could be exposed via inhalation to constituents on wind-eroded soil particulates. These exposures would be controlled, minimized or eliminated due to implementation of the necessary Soils Management Plan and Health and safety Plan required by the AUL.

### 3.9 IDENTIFICATION OF BACKGROUND OHM CONCENTRATIONS

No site-specific soil background samples were collected during this investigation. Background concentrations of inorganic OHM in soil are assumed to be those published by MADEP (1995). For volatile organic compounds, polycyclic aromatic hydrocarbons, and lubricating oil, background concentrations are assumed to be "not-detected". However, there is evidence that urban fill is present at this site and in the covered area this property. This urban fill would include, as a minimum, concentrations of the polycyclic aromatic hydrocarbons and inorganic compounds possibly in excess of regional background values due to the presence of coal and coal ash and combustion materials as fill. These materials were evident during site RAM excavation activities.

### 3.10 HOT SPOT ANALYSIS

According to the MCP (310 CMR 40.0006), a hot spot is a discrete area where the concentrations of OHM are substantially higher than those concentrations in the surrounding area and shall be considered distinct exposure points (310 CMR 40.0924(2)). In all cases, a discrete area where the concentration in the OHM is greater than 100 times the concentration in the surrounding area shall be considered a hot spot. Discrete areas where the concentration difference is greater than 10 but less than 100 shall be considered a hot spot unless:

- there is no evidence that the discrete area would be associated with greater exposure potential than surrounding area; and
- site-specific evaluation indicates that the area should not be considered a hot spot considering the concentration(s) and distribution(s) of OHM, background variability, and or appropriate statistical analyses. In no case shall concentrations of OHM equal to or less than an applicable Method 1 Standard be considered indicative of a hot spot.

### 3.11 HOT SPOTS IN SOIL AND GROUNDWATER

It was determined that a discrete area where the concentration of an OHM is greater than 100 times the concentration in the surrounding area would be considered a hot spot. Discrete areas where the concentration difference is greater than 10 but less than 100 would not be considered a hot spot. At this site, there is no evidence that potential hot spot areas would be associated with greater exposure potential than other areas of the site.

### *Surficial Soil*

No discrete areas of elevated concentrations were identified. Therefore, no hot spots were identified for surface soil.

### *Subsurface Soil*

No discrete areas of elevated concentrations were identified. Therefore, no hot spots were identified for soils 0-15 feet bgs.

### *Groundwater*

No discrete areas of elevated concentrations were identified. Therefore, no hot spots were identified for groundwater.

### **3.12 SELECTION OF OHM OF CONCERN - SURFACE SOIL**

As part of a Method 3 risk assessment, all detected OHM are selected as OHM of concern unless they meet certain criteria that allow them to be excluded. These criteria are:

- The chemicals are laboratory artifacts.
- Reported levels are consistent with "background" and there is no evidence that their presence is related to the disposal at the site.
- Chemicals are present at low frequency of detection and low concentration and there is no history of past and no evidence of current use of the OHM at the site.

The following OHM were detected in the surface soil zone of contamination:

- TPH;
- PAH (Anthracene, Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(g,h,i)perylene, Benzo(k)fluoranthene, Chrysene, Dibenzo(a,h)anthracene, Dibenzofuran, Fluoranthene, Indeno(1,2,3-cd)pyrene, Naphthalene, Phenanthrene, Pyrene); and
- VOC (Chloroform, Methylene Chloride, Styrene, Tetrachloroethene)

### **3.13 SELECTION OF OHM OF CONCERN - SUBSURFACE SOIL**

The following OHM were detected in subsurface soil zone of contamination:

- TPH;

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- PAHs (Acenaphthene, Anthracene, Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(g,h,i)perylene, Benzo(k)fluoranthene, Chrysene, Dibenzo(a,h)anthracene, Dibenzofuran, Fluoranthene, Fluorene, Indeno(1,2,3-cd)pyrene, naphthalene, Phenanthrene, Pyrene); and
- VOCs (1,2-Dichloroethene (total), Chloroform, Methylene Chloride, Styrene, Tetrachloroethene).

### 3.14 SELECTION OF OHM OF CONCERN – GROUNDWATER

Maximum concentrations for detected OHM in groundwater were compared to GW-1 standards.

The following OHM were detected in groundwater:

- TPH, EPH, VPH;
- SVOCs (4-Methylphenol (p-cresol), Benzoic Acid, bis(2-ethylhexyl)phthalate, Naphthalene, Phenol); and
- VOCs (1,2-Dichloroethene, 1,2-Dichloroethene (total), 1,4-Dichlorobenzene, 4-Methyl-2-pentanone, Acetone, Benzene, Chloroform, cis-1,2-Dichloroethene, Isopropylbenzene, Methyl-t-butyl ether, Methylene Chloride, Toluene, Trichloroethene, Trichlorofluoromethane, Xylenes (total)).

### 3.15 IDENTIFICATION OF EXPOSURE POINT CONCENTRATIONS IN SOIL

Exposure Point Concentrations (EPCs) are identified for each exposure point previously described. A child trespasser (under current and potentially future use), construction worker (under future use), and utility worker (under current and future use) could be exposed at soil exposure points. A trespasser may be exposed to the surface soil exposure point and construction and utility workers may be exposed to subsurface soils during excavation activities. Construction and utility workers may be exposed to groundwater via dermal contact while performing excavation-related activities. A commercial/industrial worker may be exposed via inhalation to VOCs migrating from groundwater to indoor air in the future.

For the evaluation of exposures to groundwater via dermal contact, EPCs are identified as the maximum concentrations detected in groundwater. This evaluation represents a worst case scenario and may be overly conservative; it is unlikely excavation workers will be exposed to maximum groundwater concentrations for all OHM during excavation activities. The calculation of concentrations in air are conservatively based on maximum detections of VOCs in groundwater. This evaluation also represents a worst case scenario and may be overly conservative.

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EPCs for surface and subsurface soil were calculated separately for all detected analytes. The arithmetic mean of all detected concentrations was used to calculate EPCs for both S-1 and S-3 scenarios. For a given chemical in a given exposure area, EPCs for contaminants in soil were calculated by taking the arithmetic average of all results. Non-detects were assigned a concentration equal to one-half of the Sample Quantitation Limits (SQL). Concentrations in duplicate samples were averaged and the result treated as one data point in the calculation of the EPC. Generally, if the average concentration exceeded the maximum detected concentration, the maximum concentration was used as the EPC. Four soil samples (A0-3, B0-3, C0-3 and D0-4) were collected and analyzed for TPH (Method i100) and VOCs in the southwest corner of the site. These samples contained no detectable VOCs, and TPH concentrations ranged from 310 mg/kg to 720 mg/kg. These samples were not included in the summary statistics presented in Tables 3 and 4.

As discussed above, maximum OHM concentrations in groundwater are used as EPCs.

Table 3 present EPCs for OHM detected in surface soil at the site.

Table 4 present EPCs for OHM detected in subsurface soil at the site.

Table 5 present EPCs for OHM detected in groundwater beneath the site.

Groundwater data collected during the Phase I Site Investigation indicate exceedence of GW-3 Groundwater Standards at well locations MW-13 and MW-20 for Total Petroleum Hydrocarbons (TPH) at concentrations of 26 mg/kg and 23 mg/kg respectively. Based on these results and the potential for off-site migration, an additional groundwater investigation was conducted in 1999 off-site and down gradient from the site. Groundwater samples were collected from four off site monitoring wells and existing on-site monitoring wells. Groundwater samples were analyzed for both TPH and extractable hydrocarbons (EPH). The EPH concentrations in groundwater are below GW-3 Groundwater Standards. The average concentration of TPH in groundwater on-site is also below GW-3 Groundwater Standards.

### **3.16 COMPARISON WITH APPLICABLE OR SUITABLY ANALOGOUS PUBLIC HEALTH STANDARDS**

There appear to be no Applicable or Suitably Analogous Public Health Standards that contain numerical concentration values to be evaluated further for onsite media. There are no drinking water exposures associated with the site and there are also no surface water-related exposures. Any workplace standards that might be applicable are to be considered in health and safety plans that are required under the provisions of the AUL for the site.



### 3.17 RISK CHARACTERIZATION RESULTS

The assessment of potential risks of harm to human health indicates that for current land use, Cumulative Receptor Cancer Risks and Cumulative Noncancer Risks are below or equal to the appropriate MCP Cumulative Receptor Risk Limits. Consistent with the terms of the AUL, for future land use, Cumulative Receptor Cancer Risks and Cumulative Noncancer Risks are also below or equal to Cumulative Receptor Risk Limits. Groundwater is not classified at this site as GW-1 and therefore is not a source of drinking water. Therefore, a condition of no significant risk of harm to human health has been achieved for the site.

Environmental risk screening results indicate that there is an absence of a potentially significant exposure pathways for environmental receptors. Therefore, a condition of no significant risk of harm to biota and habitats exists.

### 3.18 CHARACTERIZATION OF RISK TO SAFETY

The MCP (310 CMR 40.0960) states that *"a level of No Significant Risk to safety exists or has been achieved if the conditions at the Disposal Site which are related to a release of oil and/or hazardous material do not currently and will not in the foreseeable future pose a threat of physical harm or bodily injury to people."* The MCP provides examples of release-related conditions which may threaten public safety:

- the presence of rusted or corroded drums or containers, open pits, lagoons or other dangerous structures;
- any threat of fire or explosion, including the presence of explosive vapors;
- any uncontained materials which exhibit the characteristics of corrosivity, reactivity, or flammability.

HLA has not identified any conditions at the site that may pose a threat of physical harm or bodily injury to people and therefore concludes that there is no threat to public safety at the site.

## SECTION 3

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### 3.19 COMPARISON TO UPPER CONCENTRATION LIMITS

Method 3 Risk Characterization (310 CMR 40.0973(7)) requires a comparison of Exposure Point Concentrations to the Method 3 Upper Concentration Limits (UCLs) presented in 310 CMR 40.0996 to evaluate the risk of harm to public welfare and the environment. All soil and groundwater concentrations are below corresponding UCLs as shown in Tables 7-16 and 7-17 of the Phase 2 Report.



#### 4. BACKGROUND FEASIBILITY EVALUATION

*40.1056(2)(e): for all Class A Response Action Outcomes, information documenting the extent to which levels of oil and/or hazardous material in the environment have been reduced to background, and for all Class A-2 and A-3 RAOs, the results of the feasibility evaluation conducted pursuant to 310 CMR 40.0860 demonstrating that the achievement of background is not feasible;*

HLA has conducted a feasibility evaluation pursuant to 40.0860 of the MCP to demonstrate that the reduction of the concentrations of OHM in soil at the Disposal Site to levels that achieve or approach background is not feasible.

The site investigation was conducted in a manner that provided site coverage laterally and vertically of the condition of soil and groundwater relative to the nature and extent of OHM at the site. A grid sampling approach was conducted to give statistical coverage of suspected source areas at the site to include the footprint of each of the former buildings on site. Groundwater samples were collected over several rounds from wells positioned at suspected source areas, in areas downgradient of known source areas and along the downgradient boundary of the site. Characterization of the nature and extent of OHM is considered representative of site conditions.

All response actions involving the removal of OHM-affected material at the site have been conducted in a RAM to achieve a condition of no significant risk. The results of the RAM have provided a permanent solution for the site allowing RAO closure.

Evaluation of the feasibility of further reducing the concentration of OHM in the on-site environment to levels that achieve background has resulted in a determination that the cost of further actions on soil and groundwater would far exceed 20 percent of the costs associated with the RAM. Several factors contribute to this determination. Given that a comprehensive site investigation has been conducted, no significant source areas of OHM are expected to exist at the site. Source areas that have been identified have been removed in both the unsaturated and saturated zones. Boring logs identify soil type as fill with evidence of urban influence such as the detection of coal ash, clinkers, and debris. For most of the site, this type of fill is evident down to bedrock that is shallow in this area. Given this type of material is present at the site, soil classification was deemed appropriate as S-3 soils. Soils in the area of the site are similar in nature based on observations and the nature of industrial mill property circa 1900s development in this area. The feasibility of approaching or achieving background for compounds such as polycyclic aromatic

## SECTION 4

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hydrocarbons is considered not to be cost-beneficial. Essentially, excavation would be required down to bedrock over most of the site. The benefit of this action would not significantly improve the property value or promote significantly different future use of the property.

To calculate the incremental costs of achieving Background at this Site, an estimate of cost would be prepared to excavate, remove, or treat all TPH to levels of approximately 500 ppm. This would include excavation and on-site treatment or off-site disposal of all material across the majority of the 11 acre site from a depth of 0.5 to 8-10 feet below grade. The volume of material expected to be excavated under this scenario is approximately 40,000 cubic yards at a depth of 8 feet. At certain locations, to include the soil boring location at SB-37 where the detected concentration of TPH was 6400 ppm, excavation occurred as part of the demolition activities and debris removal that followed the site investigation. Given the volume of soil involved, such an under taking would be cost prohibitive (total project unit costs would vary between \$100 to \$300 per cubic yard) and the risks posed by fugitive dust emissions would outweigh the benefits gained by achieving Background. Therefore, it is infeasible to achieve Background for OHM in soils at the Site.



## **SECTION 5**

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### **5. FEASIBILITY OF ACHIEVING BACKGROUND IN GROUNDWATER AT THE SITE**

The concentrations of OHM at the Site are not at Background, however the average groundwater concentrations at the Site meet applicable MADEP MCP Groundwater Cleanup Standards (GW-2 and GW-3 Classifications). The incremental costs to achieve Background concentrations for the OHM in groundwater at Site is prohibitive and significant benefits of such treatment cannot be identified. Therefore, it is cost prohibitive and the benefits do not outweigh the costs of treatment. The impracticability of achieving Background in groundwater is further documented by the USEPA in Guidance for Evaluating the Technical Impracticability of Groundwater Restoration (OSWER Directive 9234.2-25 October 1993). Therefore it is infeasible to achieve Background for OHM in groundwater at the Site.

In accordance with 310 CMR 40.0860 (6) and (7), the benefits of implementing an additional remedial action in order to achieve background do not justify the related costs and thus is not feasible.

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**Harding Lawson Associates**





## SECTION 6

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### 6. OPERATION, MAINTENANCE AND MONITORING

*40.1056(2)(i): a description of any operation, maintenance, and or monitoring that will be required to confirm and/or maintain those conditions at the Disposal Site upon which the RAO is based;*

The provisions of the AUL must be met to maintain a condition of no significant risk.



## **7. CONCLUSIONS**

Based upon the information gathered from the Phase II and the risk characterization, a condition of No Significant Risk of harm to health, safety, public welfare and the environment has been achieved at the site for current and future use. Remedial response actions completed at the site and the implementation of an AUL have resulted in a Permanent Solution and meet the criteria of a Class A-3 RAO. For this site, a Permanent Solution has been achieved, the level of OHM has not been reduced to background, an AUL has been implemented to implement to maintain a level of no significant risk, and concentrations of OHM at the site do not exceed the applicable Upper Concentration Limits. No further response actions are warranted at this time.

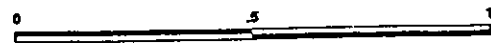




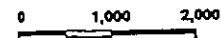
QUADRANGLE LOCATION

SOURCE: U.S.G.S. TOPOGRAPHIC MAP  
7.5 MINUTE SERIES:  
NEW BEDFORD SOUTH AND NORTH, MA

SCALE IN MILES



SCALE IN FEET



**FIGURE 1**  
**SITE LOCATION**  
**GOODYEAR TIRE & RUBBER COMPANY**  
**NEW BEDFORD, MASSACHUSETTS**

TABLE 1  
SOIL DATA

The Goodyear Tire and Rubber Company  
New Bedford, MA

Parameter	BLDG5 4/11/96 0'	MW-13 4/15/96 0'-2'	MW-14 4/11/96 0'-2'	MW-15 4/9/96 2'-4'	MW-16 4/8/96 8'-10'	MW-17 4/8/96 4'-6'
VOCs (mg/kg)						
1,2-Dichloroethene (Total)						
Acetone	<0.1	<0.11	<0.1	<0.11	<0.1	<0.1
Chloroform	<0.005	<0.006	<0.005	<0.006	<0.005	<0.005
Methylene chloride	0.01	0.021	0.01	0.01	0.009	0.008
Styrene	<0.005	<0.006	<0.005	<0.006	<0.005	<0.005
Tetrachloroethene	<0.005	<0.006	<0.005	<0.006	<0.005	<0.005
Xylenes, Total	<0.005	<0.006	<0.005	<0.006	<0.005	<0.005
SVOCs (mg/kg)						
Acenaphthene		<3.63	<1.419	<0.726	<0.363	<0.363
Anthracene		5.3	2.4	1.6	<0.363	<0.363
Benzl butyl phthalate		<3.63	<1.419	<0.726	<0.363	<0.363
Benzo(a)anthracene		9	3.2	3.1	<0.363	<0.363
Benzo(a)pyrene		7.1	3.7	3	<0.363	<0.363
Benzo(b)fluoranthene		8.6	3.8	3.8	<0.363	<0.363
Benzo(g,h,i)perylene		<3.63	<1.419	0.98	<0.363	<0.363
Benzo(k)fluoranthene		3.9	1.6	1.6	<0.363	<0.363
Chrysene		7.7	3.2	3.1	<0.363	<0.363
Dibenzo(a,h)anthracene		<3.63	<1.419	<0.726	<0.363	<0.363
Dibenzofuran		<3.63	<1.419	<0.726	<0.363	<0.363
Fluoranthene		23	8.6	6.8	<0.363	<0.363
Fluorene		<3.63	<1.419	<0.726	<0.363	<0.363
Indeno(1,2,3-cd)pyrene		<3.63	1.7	<0.726	<0.363	<0.363
Naphthalene		<3.63	<1.419	<0.726	<0.363	<0.363
Phenanthrene		25	10	6.2	<0.363	<0.363
Pyrene		17	7.2	5.8	<0.363	<0.363
Inorganics (mg/kg)						
Lead						
TPH (mg/kg)						
By Method 8100 (GC/FID)	380	1000	620	410	<22	<20

TABLE 1  
SOIL DATA

The Goodyear Tire and Rubber Company  
New Bedford, MA

Parameter	MW-18 4/10/96 2'-3'	MW-19 4/17/96 2'-4'	MW-20 4/17/96 4'-6'	MW-21 4/11/96 2.5'-4.5'	MW-21R 4/11/96 2.5'-4.5'
VOCs (mg/kg)					
1,2-Dichloroethene (Total)					
Acetone	<0.11	<0.11	<0.1	<0.11	<0.1
Chloroform	<0.006	<0.006	<0.005	<0.006	<0.005
Methylene chloride	0.01	0.011	0.01	0.011	0.013
Styrene	<0.006	<0.006	<0.005	<0.006	<0.005
Tetrachloroethene	<0.006	<0.006	<0.005	<0.006	<0.005
Xylenes, Total	<0.006	<0.006	<0.005	<0.006	<0.005
SVOCs (mg/kg)					
Acenaphthene	<0.37	<3.63	<0.363	<0.363	<0.363
Anthracene	<0.37	5.8	<0.363	<0.363	<0.363
Benzyl butyl phthalate	<0.37	<3.63	<0.363	<0.363	0.46
Benzo(a)anthracene	0.49	7.8	<0.363	<0.363	<0.363
Benzo(a)pyrene	0.46	5.6	<0.363	<0.363	<0.363
Benzo(b)fluoranthene	0.49	6.7	<0.363	<0.363	<0.363
Benzo(g,h,i)perylene	<0.37	<3.63	<0.363	<0.363	<0.363
Benzo(k)fluoranthene	<0.37	<3.63	<0.363	<0.363	<0.363
Chrysene	0.47	7.4	<0.363	<0.363	<0.363
Dibenzo(a,h)anthracene	<0.37	<3.63	<0.363	<0.363	<0.363
Dibenzofuran	<0.37	<3.63	<0.363	<0.363	<0.363
Fluoranthene	1.1	20	<0.363	0.37	0.51
Fluorene	<0.37	<3.63	<0.363	<0.363	<0.363
Indeno(1,2,3-cd)pyrene	<0.37	<3.63	<0.363	<0.363	<0.363
Naphthalene	<0.37	3.6	<0.363	<0.363	<0.363
Phenanthrene	1.3	24	<0.363	<0.363	0.47
Pyrene	1	15	<0.363	<0.363	<0.363
Inorganics (mg/kg)					
Lead					
TPH (mg/kg)					
By Method 8100 (GC/FID)	190	1300	540	160	140

TABLE 1  
SOIL DATA

The Goodyear Tire and Rubber Company  
New Bedford, MA

Parameter	MW-22 4/15/96 4'-6'	MW-23 4/12/96 2'-4'	MW-24 4/17/96 0'-2'	MW-25 4/8/96 2'-3'	MW-26 4/4/96 0.5'-2.5'
<b>VOCs (mg/kg)</b>					
1,2-Dichloroethene (Total)					
Acetone	<0.1	<0.1	<0.11	<0.1	<0.1
Chloroform	<0.005	<0.005	<0.006	<0.005	<0.005
Methylene chloride	0.014	0.02	0.01	0.009	0.008
Styrene	<0.005	<0.005	<0.006	<0.005	<0.005
Tetrachloroethene	<0.005	<0.005	<0.006	<0.005	<0.005
Xylenes, Total	<0.005	<0.005	<0.006	<0.005	<0.005
<b>SVOCs (mg/kg)</b>					
Acenaphthene	<7.26	<5.61	<3.63	<0.33	<0.33
Anthracene	12	10	0.72	<0.33	<0.33
Benzyl butyl phthalate	<7.26	<5.61	<0.363	<0.33	<0.33
Benzo(a)anthracene	20	16	1.4	<0.33	<0.33
Benzo(a)pyrene	18	15	1.3	<0.33	<0.33
Benzo(b)fluoranthene	20	16	1.7	<0.33	<0.33
Benzo(g,h,i)perylene	9.9	7.3	1.1	<0.33	<0.33
Benzo(k)fluoranthene	9.6	8.3	0.53	<0.33	<0.33
Chrysene	18	16	1.5	<0.33	<0.33
Dibenzo(a,h)anthracene	<7.26	<5.61	<0.363	<0.33	<0.33
Dibenzofuran	<7.26	<5.61	<0.363	<0.33	<0.33
Fluoranthene	46	42	3.3	<0.33	<0.33
Fluorene	<7.26	<5.61	<0.363	<0.33	<0.33
Indeno(1,2,3-cd)pyrene	7.9	6	0.55	<0.33	<0.33
Naphthalene	<7.26	<5.61	0.54	<0.33	<0.33
Phenanthrene	39	33	3.5	<0.33	<0.33
Pyrene	40	33	3	<0.33	<0.33
<b>Inorganics (mg/kg)</b>					
Lead					
<b>TPH (mg/kg)</b>					
By Method 8100 (GC/FID)	350	530	380	<20	<20



TABLE 1  
SOIL DATA

The Goodyear Tire and Rubber Company  
New Bedford, MA

Parameter	RISKMW-21 4/11/96 2.5'-4.5'	SB-1 11/28/95 7'-11'	SB-10 11/28/95 3'-6'	SB-11 11/28/95 3'-7'	SB-12 11/29/95 7'-11'
VOCs (mg/kg)					
1,2-Dichloroethene (Total)		<0.02	0.032	<0.005	<0.006
Acetone	<0.105	<0.39	<0.11	<0.1	<0.11
Chloroform	<0.0055	<0.02	<0.006	<0.005	<0.006
Methylene chloride	0.012	<0.02	0.026	0.011	0.013
Styrene	<0.0055	<0.02	<0.006	<0.005	<0.006
Tetrachloroethene	<0.0055	0.095	0.02	<0.005	<0.006
Xylenes, Total	<0.0055	<0.02	<0.006	<0.005	<0.006
SVOCs (mg/kg)					
Acenaphthene	<0.363				
Anthracene	<0.363				
Benzl butyl phthalate	0.32				
Benzo(a)anthracene	<0.363				
Benzo(a)pyrene	<0.363				
Benzo(b)fluoranthene	<0.363				
Benzo(g,h,i)perylene	<0.363				
Benzo(k)fluoranthene	<0.363				
Chrysene	<0.363				
Dibenzo(a,h)anthracene	<0.363				
Dibenzofuran	<0.363				
Fluoranthene	0.44				
Fluorene	<0.363				
Indeno(1,2,3-cd)pyrene	<0.363				
Naphthalene	<0.363				
Phenanthrene	0.33				
Pyrene	<0.363				
Inorganics (mg/kg)					
Lead		10.2	33.7	12.3	16.5
TPH (mg/kg)					
By Method 8100 (GC/FID)	150	2900	350	<22	940

TABLE 1  
SOIL DATA

The Goodyear Tire and Rubber Company  
New Bedford, MA

Parameter	SB-17 11/29/95 3'-7'	SB-24 4/3/96 6'-8'	SB-25 4/4/96 1'-3'	SB-26 4/3/96 2'-4'	SB-27 4/3/96 5.5'-7.5'	SB-28 4/3/96 3'-5'
VOCs (mg/kg)						
1,2-Dichloroethene (Total)	<0.011					
Acetone	<0.21	<0.108	<0.1	<0.115	<0.114	<0.106
Chloroform	<0.011	<0.005	<0.005	<0.006	<0.006	<0.005
Methylene chloride	0.035	<0.005	0.006	<0.006	<0.006	<0.005
Styrene	<0.011	<0.005	<0.005	<0.006	<0.006	<0.005
Tetrachloroethene	<0.011	<0.005	<0.005	<0.006	<0.006	<0.005
Xylenes, Total	<0.011	<0.005	<0.005	<0.006	<0.006	<0.005
SVOCs (mg/kg)						
Acenaphthene		<0.33	<0.363	<0.363	<0.363	<0.693
Anthracene		<0.33	<0.363	<0.363	<0.363	<0.693
Benzyl butyl phthalate		<0.33	<0.363	<0.363	<0.363	<0.693
Benzo(a)anthracene		<0.33	<0.363	<0.363	<0.363	<0.693
Benzo(a)pyrene		<0.33	<0.363	<0.363	<0.363	<0.693
Benzo(b)fluoranthene		<0.33	<0.363	<0.363	<0.363	<0.693
Benzo(g,h,i)perylene		<0.33	<0.363	<0.363	<0.363	<0.693
Benzo(k)fluoranthene		<0.33	<0.363	<0.363	<0.363	<0.693
Chrysene		<0.33	<0.363	<0.363	<0.363	<0.693
Dibenzo(a,h)anthracene		<0.33	<0.363	<0.363	<0.363	<0.693
Dibenzofuran		<0.33	<0.363	<0.363	<0.363	<0.693
Fluoranthene		<0.33	<0.363	<0.363	<0.363	<0.693
Fluorene		<0.33	<0.363	<0.363	<0.363	<0.693
Indeno(1,2,3-cd)pyrene		<0.33	<0.363	<0.363	<0.363	<0.693
Naphthalene		<0.33	<0.363	<0.363	<0.363	<0.693
Phenanthrene		<0.33	<0.363	<0.363	<0.363	<0.693
Pyrene		<0.33	<0.363	<0.363	<0.363	<0.693
Inorganics (mg/kg)						
Lead	270					
TPH (mg/kg)						
By Method 8100 (GC/FID)	1900	<22	<20	<22	<22	<44

TABLE 1  
SOIL DATA

The Goodyear Tire and Rubber Company  
New Bedford, MA

Parameter	SB-29 4/3/96 4'-6'	SB-30 4/3/96 0'-2'	SB-31 4/3/96 0'-2'	SB-32 4/3/96 2'-4'	SB-33 4/16/96 2'-4'	SB-34 4/2/96 0'-2'
VOCs (mg/kg)						
1,2-Dichloroethene (Total)						
Acetone	<0.111	<0.111	0.11	<0.108	<0.11	<0.11
Chloroform	<0.006	<0.006	<0.006	0.005	<0.006	0.005
Methylene chloride	0.007	<0.006	<0.006	<0.005	0.016	0.008
Styrene	<0.006	<0.006	0.037	<0.005	<0.006	<0.006
Tetrachloroethene	<0.006	<0.006	<0.006	<0.005	<0.006	<0.006
Xylenes, Total	<0.006	<0.006	<0.006	<0.005	<0.006	0.007
SVOCs (mg/kg)						
Acenaphthene	1.8	<2.673	<8.58	<0.693	<1.089	<1.782
Anthracene	3.9	5.7	16	0.8	1.5	2
Benzl butyl phthalate	<1.782	<2.673	<8.58	<0.693	<1.089	<1.782
Benzo(a)anthracene	6.7	8.8	22	1.5	2.6	4.2
Benzo(a)pyrene	5.6	9.2	19	1.6	2.2	4.1
Benzo(b)fluoranthene	6.8	12	22	2.2	2.8	5.1
Benzo(g,h,i)perylene	2.5	4.3	9.1	<0.693	<1.089	1.9
Benzo(k)fluoranthene	2.9	2.9	10	<0.693	1.2	2.5
Chrysene	6.8	9	22	1.6	2.6	4.5
Dibenzo(a,h)anthracene	<1.782	<2.673	<8.58	<0.693	<1.089	2.2
Dibenzofuran	<1.782	2.7	<8.58	<0.693	<1.089	<1.782
Fluoranthene	15	23	57	3.9	6.8	10
Fluorene	2.4	2.8	<8.58	<0.693	<1.089	<1.782
Indeno(1,2,3-cd)pyrene	2.6	4.3	9.3	<0.693	<1.089	1.9
Naphthalene	1.9	<2.673	<8.58	<0.693	<1.089	<1.782
Phenanthrene	15	25	67	3.5	6.2	8.6
Pyrene	13	18	46	2.7	5.4	8
Inorganics (mg/kg)						
Lead						
TPH (mg/kg)						
By Method 8100 (GC/FID)	900	3800	2000	980	310	1300

TABLE 1  
SOIL DATA

The Goodyear Tire and Rubber Company  
New Bedford, MA

Parameter	SB-35 4/2/96 0'-2'	SB-36 4/16/96 4'-6'	SB-37 4/2/96 2'-4'	SB-38 4/2/96 2'-4'	SB-39 4/2/96 1'-3'	SB-40 4/2/96 2'-4'
<b>VOCs (mg/kg)</b>						
1,2-Dichloroethene (Total)						
Acetone	<0.114	<0.1	<0.122	<0.11	<0.11	<0.116
Chloroform	0.006	<0.005	<0.006	0.005	<0.006	<0.006
Methylene chloride	<0.006	0.008	<0.006	<0.006	<0.006	<0.006
Styrene	<0.006	<0.005	<0.006	<0.006	<0.006	<0.006
Tetrachloroethene	<0.006	<0.005	<0.006	<0.006	<0.006	<0.006
Xylenes, Total	<0.006	<0.005	<0.006	<0.006	<0.006	<0.006
<b>SVOCs (mg/kg)</b>						
Acenaphthene	<0.726	<0.363	<9.57	<0.363	<1.914	<0.363
Anthracene	1.1	<0.363	21	<0.363	2.2	<0.363
Benzl butyl phthalate	<0.726	<0.363	<9.57	<0.363	<1.914	<0.363
Benzo(a)anthracene	2.1	<0.363	32	<0.363	5.4	0.7
Benzo(a)pyrene	1.8	<0.363	32	<0.363	5.8	0.6
Benzo(b)fluoranthene	<0.726	<0.363	45	<0.363	6.7	0.54
Benzo(g,h,i)perylene	0.88	<0.363	9.9	<0.363	2.1	<0.363
Benzo(k)fluoranthene	<0.726	<0.363	11	<0.363	2.7	<0.363
Chrysene	2.1	<0.363	32	<0.363	6.2	0.65
Dibenzo(a,h)anthracene	<0.726	<0.363	<9.57	<0.363	<1.914	<0.363
Dibenzofuran	<0.726	<0.363	<9.57	<0.363	<1.914	<0.363
Fluoranthene	4.2	<0.363	87	<0.363	15	1.4
Fluorene	<0.726	<0.363	12	<0.363	<1.914	<0.363
Indeno(1,2,3-cd)pyrene	1.2	<0.363	15	<0.363	2.7	<0.363
Naphthalene	<0.726	<0.363	12	<0.363	3	<0.363
Phenanthrene	4.3	<0.363	88	<0.363	17	1.2
Pyrene	4.1	<0.363	65	<0.363	12	1.5
<b>Inorganics (mg/kg)</b>						
Lead						
<b>TPH (mg/kg)</b>						
By Method 8100 (GC/FID)	230	<22	6400	<22	870	170

TABLE 1  
SOIL DATA

The Goodyear Tire and Rubber Company  
New Bedford, MA

Parameter	SB-41 4/2/96 4'-6'	SB-42 4/2/96 4'-6'	SB-43 4/2/96 6'-8'	SB-8 11/28/95 1'-3'	SB-9 11/28/95 3'-6'
<b>VOCs (mg/kg)</b>					
1,2-Dichloroethene (Total)					
Acetone	<0.114	<0.116	<0.114	<0.005	<0.006
Chloroform	<0.006	<0.006	<0.006	<0.1	<0.11
Methylene chloride	<0.006	<0.006	<0.006	<0.005	<0.006
Styrene	<0.006	<0.006	<0.006	0.031	0.013
Tetrachloroethene	<0.006	<0.006	<0.006	<0.005	<0.006
Xylenes, Total	<0.006	<0.006	<0.006	0.058	<0.006
<b>SVOCs (mg/kg)</b>				<0.005	<0.006
Acenaphthene	<0.33	<0.363	<0.726		
Anthracene	0.56	<0.363	0.73		
Benzl butyl phthalate	<0.33	<0.363	<0.726		
Benzo(a)anthracene	0.95	<0.363	1.7		
Benzo(a)pyrene	0.75	<0.363	1.9		
Benzo(b)fluoranthene	0.79	<0.363	1.9		
Benzo(g,h,i)perylene	<0.33	<0.363	1.5		
Benzo(k)fluoranthene	<0.33	<0.363	0.85		
Chrysene	0.73	<0.363	1.7		
Dibenzo(a,h)anthracene	<0.33	<0.363	<0.726		
Dibenzofuran	<0.33	<0.363	<0.726		
Fluoranthene	2.1	<0.363	3.8		
Fluorene	<0.33	<0.363	<0.726		
Indeno(1,2,3-cd)pyrene	<0.33	<0.363	0.92		
Naphthalene	<0.33	<0.363	<0.726		
Phenanthrene	3	<0.363	3.1		
Pyrene	1.8	<0.363	3.4		
<b>Inorganics (mg/kg)</b>					
Lead				43.4	5.1
<b>TPH (mg/kg)</b>					
By Method 8100 (GC/FID)	120	<24	530	960	<22

TAB  
GROUNDWATER DATA

The Goodyear Tire and Rubber Company  
New Bedford, MA

PARAMETER	FB-1 11/28/95	FB-11/15 11/15/96	MW-1 12/1/95	MW-1 5/3/96	MW-10 12/1/95	MW-11 5/3/96	MW-13 11/15/96
VOCs (ug/L)							
1,1-Dichloroethane	<5	<1	<5	<10	<5	<5	<1
1,1-Dichloroethene	<5	<1	<5	<10	<5	<5	<1
1,2,4-Trimethylbenzene		<1					<1
1,2-Dichloroethane	<5	<1	<5	<10	<5	<5	<1
1,2-Dichloroethene (Total)	<5		<5		<5		
1,4-Dichlorobenzene	<5	<1	<5	<10	<5	<5	<1
4-Methyl-2-Pentanone	<50	<10	<50	<100	<50	<50	<10
Acetone	<100	<20	<100	<200	<100	<100	<20
Benzene	<5	<1	<5	<10	<5	<5	<1
Chloroform	<5	<1	<5	<10	<5	<5	<1
cis-1,2-Dichloroethene		<1		<10		<5	<1
Ethylbenzene	<5	<1	<5	<10	<5	<5	<1
Isopropylbenzene		<1					<1
Methyl-t-butyl ether	<5	<1	<5	<10	<5	<5	<1
Methylene Chloride	<5	8	<5	<10	<5	<5	<1
n-Propylbenzene		<1					<1
Toluene	<5	<1	<5	<10	<5	<5	<1
Trichloroethene	<5	<1	<5	<10	<5	<5	<1
Trichlorofluoromethane	<5	<1	<5	12	<5	43	<1
Vinyl chloride	<10	<2	<10	<20	<10	<10	<2
Xylenes/Xylenes Total	<5	<1	<5	<10	<5	<5	<1
SVOCs (ug/L)							
2,4-Dimethylphenol	<10	<10	<10	<10	<10	<10	<10
2-Methylnaphthalene							
2-Methylphenol (o-cresol)	<10	<10	<10	<10	<10	<10	<10
4-Methylphenol (p-cresol)	<10	<10	<10	<10	<10	<10	<10
Acenaphthene							
Acenaphthylene							
Anthracene							
Benzo(a)anthracene							

TAB  
GROUNDWATER DATA

The Goodyear Tire and Rubber Company  
New Bedford, MA

PARAMETER	FB-1 11/28/95	FB-11/15 11/15/96	MW-1 12/1/95	MW-1 5/3/96	MW-10 12/1/95	MW-11 5/3/96	MW-13 11/15/96
Benzo(a)pyrene							
Benzo(b)fluoranthene							
Benzo(g,h,i)perylene							
Benzo(k)fluoranthene							
Benzoic Acid	<50	<50	<50	<50	<50	<50	<50
bis(2-ethylhexyl)phthalate	<10	89	<10	<10	<10	<10	<10
Chrysene							
Dibenzo(a,h)anthracene							
Fluoranthene							
Fluorene							
Indeno(1,2,3-cd)pyrene							
Naphthalene	<10	<10	<10	<10	<10	<10	<10
Phenanthrene							
Phenol	<10	<10	<10	<10	<10	<10	<10
Pyrene							
Inorganics (ug/L)							
Iron							
Manganese							
Dissolved Iron							
Dissolved Manganese							
EPH (ug/L)							
C11-C22 Aromatics							
C19-C36 Aliphatics							
C9-C18 Aliphatics							
Unadjusted C11-C22 Aromatics							
TPH (ug/L)							
TPH		<500		20000		5900	2600

TAB  
GROUNDWATER DATA

The Goodyear Tire and Rubber Company  
New Bedford, MA

PARAMETER	MW-13 5/3/96	MW-14 1/6/99	MW-14 11/15/96	MW-14 5/3/96	MW-14 6/18/97	MW-15 1/6/99	MW-15 11/15/96
VOCs (ug/L)							
1,1-Dichloroethane	<5		1	<5	2		<1
1,1-Dichloroethene	<5		<1	<5	<1		<1
1,2,4-Trimethylbenzene			<1		<1		<1
1,2-Dichloroethane	<5		<1	<5	<1		<1
1,2-Dichloroethene (Total)							
1,4-Dichlorobenzene	<5		<1	<5	<1		<1
4-Methyl-2-Pentanone	<50		<10	<50	<10		<10
Acetone	<100		<20	<100	<20		<20
Benzene	<5		1	<5	<1		<1
Chloroform	<5		<1	<5	<1		<1
cis-1,2-Dichloroethene	<5		<1	<5	<1		<1
Ethylbenzene	<5		<1	<5	<1		<1
Isopropylbenzene			<1		<1		<1
Methyl-t-butyl ether	<5		2	<5	<1		<1
Methylene Chloride	<5		<1	<5	<1		<1
n-Propylbenzene			<1		<1		<1
Toluene	<5		<1	<5	<1		<1
Trichloroethene	<5		<1	<5	<1		<1
Trichlorofluoromethane	<5		<1	<5	<1		<1
Vinyl chloride	<10		<2	<10	<2		<2
Xylenes/Xylenes Total	<5		<1	<5	<1		<1
SVOCs (ug/L)							
2,4-Dimethylphenol	<10		<10	<10			<10
2-Methylnaphthalene		<10				<10	
2-Methylphenol (o-cresol)	<10		<10	<10			<10
4-Methylphenol (p-cresol)	<10		<10	<10			<10
Acenaphthene		<10				<10	
Acenaphthylene		<10				<10	
Anthracene		<10				<10	
Benzo(a)anthracene		<10				<10	



TAB  
GROUNDWATER DATA

The Goodyear Tire and Rubber Company  
New Bedford, MA

PARAMETER	MW-13 5/3/96	MW-14 1/6/99	MW-14 11/15/96	MW-14 5/3/96	MW-14 6/18/97	MW-15 1/6/99	MW-15 11/15/96
Benzo(a)pyrene		<10				<10	
Benzo(b)fluoranthene		<10				<10	
Benzo(g,h,i)perylene		<10				<10	
Benzo(k)fluoranthene		<10				<10	
Benzoic Acid	<50		<50	<50			<50
bis(2-ethylhexyl)phthalate	<10		<10	<10			54
Chrysene		<10				<10	
Dibenzo(a,h)anthracene		<10				<10	
Fluoranthene		<10				<10	
Fluorene		<10				<10	
Indeno(1,2,3-cd)pyrene		<10				<10	
Naphthalene	<10	<10	<10	<10	<10	<10	18
Phenanthrene		<10				<10	
Phenol	<10		<10	<10		<10	<10
Pyrene		<10				<10	
Inorganics (ug/L)							
Iron		1300					
Manganese		2100					
Dissolved Iron		1000					
Dissolved Manganese		2000					
EPH (ug/L)							
C11-C22 Aromatics		<100				<100	
C19-C36 Aliphatics		<100				<100	
C9-C18 Aliphatics		<100				<100	
Unadjusted C11-C22 Aromatics		<100				<100	
TPH (ug/L)							
TPH	23000	700	4500	15000	5800	10000	8700

TAL  
GROUNDWATER DATA

The Goodyear Tire and Rubber Company  
New Bedford, MA

PARAMETER	MW-15 5/3/96	MW-15 6/18/97	MW-16 11/15/96	MW-16 5/3/96	MW-17 11/15/96	MW-17 5/3/96	MW-18 1/6/99
<b>VOCs (ug/L)</b>							
1,1-Dichloroethane	<5	<1	<1	<10	<1	<5	
1,1-Dichloroethene	<5	<1	<1	<10	<1	<5	
1,2,4-Trimethylbenzene		<1	<1		<1		
1,2-Dichloroethane	<5	<1	<1	<10	<1	<5	
1,2-Dichloroethene (Total)							
1,4-Dichlorobenzene	<5	<1	<1	<10	<1	<5	
4-Methyl-2-Pentanone	<50	<10	<10	<100	<10	<50	
Acetone	<100	<20	<20	<200	<20	<100	
Benzene	<5	<1	<1	<10	<1	<5	
Chloroform	<5	<1	<1	<10	<1	<5	
cis-1,2-Dichloroethene	<5	2	<1	<10	<1	<5	
Ethylbenzene	<5	<1	<1	<10	<1	<5	
Isopropylbenzene		<1	<1		<1		
Methyl-t-butyl ether	<5	<1	<1	<10	<1	<5	
Methylene Chloride	<5	<1	<1	<10	<1	<5	
n-Propylbenzene		<1	<1		<1		
Toluene	<5	<1	<1	<10	<1	<5	
Trichloroethene	<5	<1	<1	<10	<1	<5	
Trichlorofluoromethane	<5	<1	<1	42	18	13	
Vinyl chloride	<10	<2	<2	<20	<2	<10	
Xylenes/Xylenes Total	<5	<1	<1	<10	<1	<5	
<b>SVOCs (ug/L)</b>							
2,4-Dimethylphenol	<10		<10	<10	<10	<10	
2-Methylnaphthalene						<10	
2-Methylphenol (o-cresol)	<10		<10	<10	<10	<10	
4-Methylphenol (p-cresol)	<10		<10	<10	<10	<10	
Acenaphthene						<10	
Acenaphthylene						<10	
Anthracene						<10	
Benzo(a)anthracene						<10	

**TAL  
GROUNDWATER DATA**

**The Goodyear Tire and Rubber Company  
New Bedford, MA**

PARAMETER	MW-15 5/3/96	MW-15 6/18/97	MW-16 11/15/96	MW-16 5/3/96	MW-17 11/15/96	MW-17 5/3/96	MW-18 1/6/99
Benzo(a)pyrene							<10
Benzo(b)fluoranthene							<10
Benzo(g,h,i)perylene							<10
Benzo(k)fluoranthene							<10
Benzoic Acid	<50		<50	<50	<50	<10	
bis(2-ethylhexyl)phthalate	<10		<10	<10	<10	<10	
Chrysene							<10
Dibenzo(a,h)anthracene							<10
Fluoranthene							<10
Fluorene							<10
Indeno(1,2,3-cd)pyrene							<10
Naphthalene	12	<10	<10	<10	<10	<10	<10
Phenanthrene							<10
Phenol	<10		<10	<10	<10	<10	
Pyrene							<10
<b>Inorganics (ug/L)</b>							
Iron							870
Manganese							2600
Dissolved Iron							880
Dissolved Manganese							2700
<b>EPH (ug/L)</b>							
C11-C22 Aromatics							<100
C19-C36 Aliphatics							<100
C9-C18 Aliphatics							<100
Unadjusted C11-C22 Aromatics							<100
<b>TPH (ug/L)</b>							
TPH	16000	14000	3200	9100	<500	<500	13600

TAE  
GROUNDWATER DATA

The Goodyear Tire and Rubber Company  
New Bedford, MA

PARAMETER	MW-18 11/15/96	MW-18 5/3/96	MW-19 11/15/96	MW-19 5/3/96	MW-2 12/1/95	MW-20 5/3/96	MW-21 1/6/99
<b>VOCs (ug/L)</b>							
1,1-Dichloroethane	<1	<5	<1	<5	<5	<5	
1,1-Dichloroethene	<1	<5	<1	<5	<5	<5	
1,2,4-Trimethylbenzene	<1		<1				
1,2-Dichloroethane	<1	<5	<1	<5	<5	<5	
1,2-Dichloroethene (Total)							
1,4-Dichlorobenzene	<1	<5	<1	<5	6	<5	
4-Methyl-2-Pentanone	<10	<50	<10	<50	<50	<50	
Acetone	<20	<100	<20	<100	<100	<100	
Benzene	1	8	<1	<5	<5	<5	
Chloroform	<1	<5	<1	<5	<5	<5	
cis-1,2-Dichloroethene	<1	<5	<1	<5	<5	<5	
Ethylbenzene	1	<5	<1	<5	<5	<5	
Isopropylbenzene	1		<1				
Methyl-t-butyl ether	<1	<5	3	<5	<5	<5	
Methylene Chloride	<1	<5	<1	<5	<5	<5	
n-Propylbenzene	<1		<1				
Toluene	<1	<5	<1	<5	140	<5	
Trichloroethene	<1	<5	<1	<5	<5	<5	
Trichlorofluoromethane	4	15	<1	<5	<5	<5	
Vinyl chloride	<2	<10	<2	<10	<10	<10	
Xylenes/Xylenes Total	2	7	<1	<5	<5	<5	
<b>SVOCs (ug/L)</b>							
2,4-Dimethylphenol	<10	<10	<10	<10	<110	<10	
2-Methylnaphthalene							<10
2-Methylphenol (o-cresol)	<10	<10	<10	<10	<110	<10	
4-Methylphenol (p-cresol)	<10	<10	<10	<10	300	<10	
Acenaphthene							<10
Acenaphthylene							<10
Anthracene							<10
Benzo(a)anthracene							<10

TAE  
GROUNDWATER DATA

The Goodyear Tire and Rubber Company  
New Bedford, MA

PARAMETER	MW-18 11/15/96	MW-18 5/3/96	MW-19 11/15/96	MW-19 5/3/96	MW-2 12/1/95	MW-20 5/3/96	MW-21 1/6/99
Benzo(a)pyrene							<10
Benzo(b)fluoranthene							<10
Benzo(g,h,i)perylene							<10
Benzo(k)fluoranthene							<10
Benzoic Acid	<50	<50	<50	<50	630	<50	
bis(2-ethylhexyl)phthalate	<10	<10	<10	<10	<110	<10	
Chrysene							<10
Dibenzo(a,h)anthracene							<10
Fluoranthene							<10
Fluorene							<10
Indeno(1,2,3-cd)pyrene							<10
Naphthalene	<10	<10	38	<10	<110	16	<10
Phenanthrene							<10
Phenol	<10	<10	<10	<10	<110	<10	
Pyrene							<10
Inorganics (ug/L)							
Iron							
Manganese							
Dissolved Iron							
Dissolved Manganese							
EPH (ug/L)							
C11-C22 Aromatics							970
C19-C36 Aliphatics							2300
C9-C18 Aliphatics							470
Unadjusted C11-C22 Aromatics							970
TPH (ug/L)							
TPH	6600	10000	<500	8600		26000	<500

TAE  
GROUNDWATER DATA

The Goodyear Tire and Rubber Company  
New Bedford, MA

PARAMETER	MW-21 11/15/96	MW-21 5/3/96	MW-21 6/18/97	MW-22 11/15/96	MW-22 5/3/96	MW-23 11/15/96	MW-23 5/2/96
VOCs (ug/L)							
1,1-Dichloroethane	<1	<5		<1	<5	<1	<5
1,1-Dichloroethene	<1	<5		<1	<5	<1	<5
1,2,4-Trimethylbenzene	<1			<1		<1	
1,2-Dichloroethane	<1	<5		<1	<5	<1	<5
1,2-Dichloroethene (Total)							
1,4-Dichlorobenzene	<1	<5		<1	<5	<1	<5
4-Methyl-2-Pentanone	<10	<50		<10	<50	<10	<50
Acetone	<20	<100		<20	<100	<20	<100
Benzene	<1	<5		<1	<5	<1	<5
Chloroform	<1	<5		1	<5	<1	<5
cis-1,2-Dichloroethene	<1	<5		<1	<5	<1	<5
Ethylbenzene	<1	<5		<1	<5	<1	<5
Isopropylbenzene	<1			<1		<1	
Methyl-t-butyl ether	<1	<5		<1	<5	10	48
Methylene Chloride	<1	<5		<1	<5	<1	<5
n-Propylbenzene	<1			<1		<1	
Toluene	<1	<5		<1	<5	<1	<5
Trichloroethene	<1	<5		<1	<5	<1	<5
Trichlorofluoromethane	<1	<5		<1	<5	<1	<5
Vinyl chloride	<2	<10		<2	<10	<2	<10
Xylenes/Xylenes Total	<1	<5		<1	<5	<1	<5
SVOCs (ug/L)							
2,4-Dimethylphenol	<10	<10		<10	<10	<10	<10
2-Methylnaphthalene							
2-Methylphenol (o-cresol)	<10	<10		<10	<10	<10	<10
4-Methylphenol (p-cresol)	<10	<10		<10	<10	<10	<10
Acenaphthene							
Acenaphthylene							
Anthracene							
Benzo(a)anthracene							

TAL  
GROUNDWATER DATA

The Goodyear Tire and Rubber Company  
New Bedford, MA

PARAMETER	MW-21 11/15/96	MW-21 5/3/96	MW-21 6/18/97	MW-22 11/15/96	MW-22 5/3/96	MW-23 11/15/96	MW-23 5/2/96
Benzo(a)pyrene							
Benzo(b)fluoranthene							
Benzo(g,h,i)perylene							
Benzo(k)fluoranthene							
Benzoic Acid	<50	<50		<50	<50	<50	<50
bis(2-ethylhexyl)phthalate	<10	<10		<10	<10	<10	<10
Chrysene							
Dibenzo(a,h)anthracene							
Fluoranthene							
Fluorene							
Indeno(1,2,3-cd)pyrene							
Naphthalene	<10	<10		<10	<10	<10	<10
Phenanthrene							
Phenol	<10	<10		<10	<10	<10	<10
Pyrene							
Inorganics (ug/L)							
Iron							
Manganese							
Dissolved Iron							
Dissolved Manganese							
EPH (ug/L)							
C11-C22 Aromatics							
C19-C36 Aliphatics							
C9-C18 Aliphatics							
Unadjusted C11-C22 Aromatics							
TPH (ug/L)							
TPH	<500	<500	5100	<500	4800	<500	2700

TAL  
GROUNDWATER DATA

The Goodyear Tire and Rubber Company  
New Bedford, MA

PARAMETER	MW-24 11/15/96	MW-25 11/15/96	MW-25 5/3/96	MW-26 11/15/96	MW-26 5/3/96	MW-27 11/15/96	MW-27 5/3/96
VOCs (ug/L)							
1,1-Dichloroethane	<1	<1	<5	<1	<5	<1	<10
1,1-Dichloroethene	<1	<1	<5	<1	<5	<1	<10
1,2,4-Trimethylbenzene	<1	<1		<1		<1	
1,2-Dichloroethane	<1	<1	<5	<1	<5	<1	<10
1,2-Dichloroethene (Total)							
1,4-Dichlorobenzene	<1	<1	<5	<1	<5	<1	<10
4-Methyl-2-Pentanone	<10	<10	<50	<10	<50	<10	<100
Acetone	<20	<20	<100	<20	<100	<20	<200
Benzene	<1	<1	<5	<1	<5	<1	<10
Chloroform	<1	<1	<5	<1	<5	<1	<10
cis-1,2-Dichloroethene	<1	<1	<5	<1	<5	<1	<10
Ethylbenzene	<1	<1	<5	<1	<5	<1	<10
Isopropylbenzene	<1	<1		<1		<1	
Methyl-t-butyl ether	2	<1	<5	<10	<5	<1	<10
Methylene Chloride	<1	<1	<5	<1	10	<1	<10
n-Propylbenzene	<1	<1		<1		<1	
Toluene	<1	<1	<5	<1	<5	<1	<10
Trichloroethene	<1	<1	<5	<1	<5	<1	<10
Trichlorofluoromethane	<1	<1	<5	1	<5	<1	14
Vinyl chloride	<2	<2	<10	<2	<10	<2	<20
Xylenes/Xylenes Total	<1	<1	<5	<1	<5	<1	<10
SVOCs (ug/L)							
2,4-Dimethylphenol	<10	<10	<10	<10	<10	<10	<10
2-Methylnaphthalene							
2-Methylphenol (o-cresol)	<10	<10	<10	<10	<10	<10	<10
4-Methylphenol (p-cresol)	<10	<10	<10	<10	<10	<10	<10
Acenaphthene							
Acenaphthylene							
Anthracene							
Benzo(a)anthracene							



TAE  
GROUNDWATER DATA

The Goodyear Tire and Rubber Company  
New Bedford, MA

PARAMETER	MW-24 11/15/96	MW-25 11/15/96	MW-25 5/3/96	MW-26 11/15/96	MW-26 5/3/96	MW-27 11/15/96	MW-27 5/3/96
Benzo(a)pyrene							
Benzo(b)fluoranthene							
Benzo(g,h,i)perylene							
Benzo(k)fluoranthene							
Benzoic Acid	<50	<50	<50	<50	<50	<50	<50
bis(2-ethylhexyl)phthalate	<10	<10	<10	<10	<10	<10	<10
Chrysene							
Dibenzo(a,h)anthracene							
Fluoranthene							
Fluorene							
Indeno(1,2,3-cd)pyrene							
Naphthalene	<10	<10	<10	<10	<10	<10	<10
Phenanthrene							
Phenol	<10	<10	<10	<10	<10	<10	<10
Pyrene							
Inorganics (ug/L)							
Iron							
Manganese							
Dissolved Iron							
Dissolved Manganese							
EPH (ug/L)							
C11-C22 Aromatics							
C19-C36 Aliphatics							
C9-C18 Aliphatics							
Unadjusted C11-C22 Aromatics							
TPH (ug/L)	<500	<500	<500	<500	<500	<500	12000
TPH							

TAE  
GROUNDWATER DATA

The Goodyear Tire and Rubber Company  
New Bedford, MA

PARAMETER	MW-28 1/6/99	MW-28 11/15/96	MW-28 5/3/96	MW-28 6/18/97	MW-29 1/6/99	MW-3 11/15/96	MW-3 5/2/96
VOCs (ug/L)							
1,1-Dichloroethane		2	<5	<1		<1	<5
1,1-Dichloroethene		<1	<5	<1		<1	<5
1,2,4-Trimethylbenzene		1		1		<1	
1,2-Dichloroethane		<1	<5	<1		<1	<5
1,2-Dichloroethene (Total)							
1,4-Dichlorobenzene		<1	<5	<1		<1	<5
4-Methyl-2-Pentanone		<10	<50	<10		<10	<50
Acetone		<20	<100	<20		<20	<100
Benzene		1	<5	1		<1	<5
Chloroform		<1	<5	<1		4	<5
cis-1,2-Dichloroethene		4	<5	2		<1	<5
Ethylbenzene		<1	<5	<1		<1	<5
Isopropylbenzene		<1		1		<1	
Methyl-t-butyl ether		1	<5	<1		10	7
Methylene Chloride		<1	<5	<1		<1	<5
n-Propylbenzene		<1		2		<1	
Toluene		<1	<5	<1		<1	<5
Trichloroethene		7	<5	<1		<1	<5
Trichlorofluoromethane		<1	<5	<1		<1	<5
Vinyl chloride		2	<10	<2		<2	<10
Xylenes/Xylenes Total		<1	<5	<1		<1	<5
SVOCs (ug/L)							
2,4-Dimethylphenol		<10	<10			<10	<10
2-Methylnaphthalene	<10				<10		
2-Methylphenol (o-cresol)		<10	<10			<10	<10
4-Methylphenol (p-cresol)		<10	<10			<10	<10
Acenaphthene	<10				<10		
Acenaphthylene	<10				<10		
Anthracene	<10				<10		
Benzo(a)anthracene	<10				<10		

TAE  
GROUNDWATER DATA

The Goodyear Tire and Rubber Company  
New Bedford, MA

PARAMETER	MW-28 1/6/99	MW-28 11/15/96	MW-28 5/3/96	MW-28 6/18/97	MW-29 1/6/99	MW-3 11/15/96	MW-3 5/2/96
Benzo(a)pyrene	<10				<10		
Benzo(b)fluoranthene	<10				<10		
Benzo(g,h,i)perylene	<10				<10		
Benzo(k)fluoranthene	<10				<10		
Benzoic Acid		<50	<50			<50	<50
bis(2-ethylhexyl)phthalate		<10	<10			<10	<10
Chrysene	<10				<10		
Dibenzo(a,h)anthracene	<10				<10		
Fluoranthene	<10				<10		
Fluorene	<10				<10		
Indeno(1,2,3-cd)pyrene	<10				<10		
Naphthalene	<10	<10	<10	<10	<10	<10	<10
Phenanthrene	<10				<10		
Phenol		<10	<10			<10	<10
Pyrene	<10				<10		
Inorganics (ug/L)							
Iron					1000		
Manganese					3300		
Dissolved Iron					73		
Dissolved Manganese					3100		
EPH (ug/L)							
C11-C22 Aromatics	<100				<100		
C19-C36 Aliphatics	<100				<100		
C9-C18 Aliphatics	<100				<100		
Unadjusted C11-C22 Aromatics	<100				<100		
TPH (ug/L)							
TPH	<500	2900	6900	<500	<500	<500	<500

TAL  
GROUNDWATER DATA

The Goodyear Tire and Rubber Company  
New Bedford, MA

PARAMETER	MW-30 1/6/99	MW-31 1/6/99	MW-32 1/6/99	RISKMW-20 11/15/96	RISKMW-24 11/15/96	SB-1 11/28/95	SB-10 11/28/95	SB-11 11/28/95
VOCs (ug/L)								
1,1-Dichloroethane				<1	<5	<13	<10	<5
1,1-Dichloroethene				<1	<5	<13	<10	<5
1,2,4-Trimethylbenzene				<1				
1,2-Dichloroethane				<1	<5	<13	<10	<5
1,2-Dichloroethene (Total)						<13	39	<5
1,4-Dichlorobenzene				<1	<5	<13	<10	<5
4-Methyl-2-Pentanone				<10	<50	<125	120	<50
Acetone				<20	<100	<250	<200	<100
Benzene				<1	<5	27	<10	<5
Chloroform				1	<5	<13	<10	<5
cis-1,2-Dichloroethene				<1	<5			
Ethylbenzene				<1	<5	<13	<10	<5
Isopropylbenzene				<1				
Methyl-t-butyl ether				<1	<5	<13	<10	<5
Methylene Chloride				<1	6.25	<13	<10	8
n-Propylbenzene				<1				
Toluene				<1	<5	<13	<10	<5
Trichloroethene				<1	<5	<13	<10	<5
Trichlorofluoromethane				<1	<5	<13	<10	<5
Vinyl chloride				<2	<10	<25	<20	<10
Xylenes/Xylenes Total				<1	<5	<13	<10	<5
SVOCs (ug/L)								
2,4-Dimethylphenol				<10	<10	<10	14	<10
2-Methylnaphthalene	<10	<10	<10					
2-Methylphenol (o-cresol)				<10	<10	<10	18	<10
4-Methylphenol (p-cresol)				<10	<10	<10	19	<10
Acenaphthene	<10	<10	<10					
Acenaphthylene	<10	<10	<10					
Anthracene	<10	<10	<10					
Benzo(a)anthracene	<10	<10	<10					

TAL  
GROUNDWATER DATA

The Goodyear Tire and Rubber Company  
New Bedford, MA

PARAMETER	MW-30 1/6/99	MW-31 1/6/99	MW-32 1/6/99	RISKMW-20 11/15/96	RISKMW-24 11/15/96	SB-1 11/28/95	SB-10 11/28/95	SB-11 11/28/95
Benzo(a)pyrene	<10	<10	<10					
Benzo(b)fluoranthene	<10	<10	<10					
Benzo(g,h,i)perylene	<10	<10	<10					
Benzo(k)fluoranthene	<10	<10	<10					
Benzoic Acid				<50	<50	<50	<50	<50
bis(2-ethylhexyl)phthalate				<10	10.5	<10	<10	<10
Chrysene	<10	<10	<10					
Dibenzo(a,h)anthracene	<10	<10	<10					
Fluoranthene	<10	<10	<10					
Fluorene	<10	<10	<10					
Indeno(1,2,3-cd)pyrene	<10	<10	<10					
Naphthalene	<10	<10	<10	<10	<10	<10	23	<10
Phenanthrene	<10	<10	<10					
Phenol				<10	<10	<10	<10	<10
Pyrene	<10	<10	<10					
Inorganics (ug/L)								
Iron	55000							
Manganese	2600							
Dissolved Iron	2800							
Dissolved Manganese	1500							
EPH (ug/L)								
C11-C22 Aromatics	<100	<100	<100					
C19-C36 Aliphatics	<100	<100	<100					
C9-C18 Aliphatics	<100	<100	<100					
Unadjusted C11-C22 Aromatics	<100	<100	<100					
TPH (ug/L)								
TPH	500	800	<500	7650	4850			

**TAB 1  
GROUNDWATER DATA**

**The Goodyear Tire and Rubber Company  
New Bedford, MA**

PARAMETER	SB-12 11/29/95	SB-14 11/29/95	SB-20 11/30/95	SB-23 11/30/95	SB-8 11/28/95	TP-4 11/30/95	TP-6 11/30/95
VOCs (ug/L)							
1,1-Dichloroethane	<5	<10	<10	<5	<5	<10	<5
1,1-Dichloroethene	<5	<10	<10	<5	<5	<10	<5
1,2,4-Trimethylbenzene							
1,2-Dichloroethane	<5	<10	<10	<5	<5	<10	<5
1,2-Dichloroethene (Total)	<5	<10	<10	<5	<5	<10	<5
1,4-Dichlorobenzene	<5	<10	<10	<5	<5	<10	<5
4-Methyl-2-Pentanone	<50	<100	<100	<50	<50	<100	<50
Acetone	<100	<200	<200	<100	<100	<200	240
Benzene	<5	<10	<10	<5	<5	<10	<5
Chloroform	<5	<10	<10	<5	<5	<10	<5
cis-1,2-Dichloroethene							
Ethylbenzene	<5	<10	<10	<5	<5	<10	<5
Isopropylbenzene							
Methyl-t-butyl ether	<5	<10	<10	<5	<5	<10	<5
Methylene Chloride	8	17	15	7	<5	8	<5
n-Propylbenzene							
Toluene	<5	<10	<10	<5	<5	<10	<5
Trichloroethene	<5	<10	<10	<5	<5	<10	<5
Trichlorofluoromethane	<5	<10	15	<5	<5	<10	130
Vinyl chloride	<10	<20	<20	<10	<10	<20	<10
Xylenes/Xylenes Total	<5	<10	<10	<5	<5	<10	<5
SVOCs (ug/L)							
2,4-Dimethylphenol	<10	<10	<10	<28	<10	<10	<38
2-Methylnaphthalene							
2-Methylphenol (o-cresol)	<10	<10	<10	<28	<10	<10	<38
4-Methylphenol (p-cresol)	<10	<10	<10	<28	<10	<10	43
Acenaphthene							
Acenaphthylene							
Anthracene							
Benzo(a)anthracene							

TAL  
GROUNDWATER DATA

The Goodyear Tire and Rubber Company  
New Bedford, MA

PARAMETER	SB-12 11/29/95	SB-14 11/29/95	SB-20 11/30/95	SB-23 11/30/95	SB-8 11/28/95	TP-4 11/30/95	TP-6 11/30/95
Benzo(a)pyrene							
Benzo(b)fluoranthene							
Benzo(g,h,i)perylene							
Benzo(k)fluoranthene							
Benzoic Acid	<50	<50	<50	<140	<50	<50	310
bis(2-ethylhexyl)phthalate	<10	<10	<10	<28	<10	<10	<38
Chrysene							
Dibenzo(a,h)anthracene							
Fluoranthene							
Fluorene							
Indeno(1,2,3-cd)pyrene							
Naphthalene	14	23	<10	<28	<10	<10	<38
Phenanthrene							
Phenol	<10	<10	<10	<28	<10	<10	80
Pyrene							
Inorganics (ug/L)							
Iron							
Manganese							
Dissolved Iron							
Dissolved Manganese							
EPH (ug/L)							
C11-C22 Aromatics							
C19-C36 Aliphatics							
C9-C18 Aliphatics							
Unadjusted C11-C22 Aromatics							
TPH (ug/L)							
TPH							

**TABLE 2**  
**IDENTIFICATION OF POTENTIAL EXPOSURE PATHWAYS FOR ON-SITE RECEPTORS**

The Goodyear Tire and Rubber Company  
New Bedford, MA

RECEPTOR	POTENTIAL EXPOSURE MEDIUM AND ROUTE	IS PATHWAY COMPLETE?	PATHWAY EVALUATED?	REASON FOR SELECTION OR EXCLUSION
Child Resident Trespasser (ages 7 through 16)	Surface Soil Incidental Ingestion Dermal contact	Yes; current and future exposures are possible	Yes Yes	Resident may be exposed to surface soils while trespassing on the unoccupied property.
	Subsurface Soil Incidental Ingestion Dermal contact	No; current exposures do not occur and future exposures will not occur	No No	Subsurface soils are not accessible to trespassers.
	Surface Soil Incidental Ingestion Dermal contact	No; current exposures do not occur, and future exposures will not occur	No No	Currently, the site is vacant and unused. This receptor is not present. The AUL for the property would prevent future exposure.
	Subsurface Soil Incidental Ingestion Dermal contact	No; current exposures do not occur and future exposures will not occur	No No	Currently, the site is vacant and unused. This receptor is not present. The AUL for the property would prevent future exposure.
Full Time Commercial/Industrial Worker	Groundwater Incidental Ingestion Dermal contact Inhalation of VOCs	Yes; current exposures do not occur for all pathways; future exposures via ingestion and dermal contact will not occur; future exposures via inhalation of VOCs may occur.	No No No Yes	Currently, the site is vacant and unused. This receptor is not present. The AUL for the property would prevent future direct contact exposures. VOCs in groundwater may migrate to indoor air of future buildings.
	Surface Soil Incidental Ingestion Dermal contact	No; current exposures do not occur, and future exposures will not occur	No No	Currently, the site is vacant and unused. This receptor is not present. The AUL for the property would prevent future exposure.
	Subsurface Soil Incidental Ingestion Dermal contact	No; current exposures do not occur and future exposures will not occur	No No	Currently, the site is vacant and unused. This receptor is not present. The AUL for the property would prevent future exposure.
	Groundwater Incidental Ingestion Dermal contact Inhalation of VOCs	Yes; current exposures do not occur for all pathways; future exposures via ingestion and dermal contact will not occur; future exposures via inhalation of VOCs may occur.	No No No No	Currently, the site is vacant and unused. This receptor is not present. The AUL for the property would prevent future exposure.
Child or Adult Site Visitor (Customer)	Surface Soil Incidental Ingestion Dermal contact	No; current exposures do not occur, and future exposures will not occur	No No	Currently, the site is vacant and unused. This receptor is not present. The AUL for the property would prevent future exposure.
	Subsurface Soil Incidental Ingestion Dermal contact	No; current exposures do not occur and future exposures will not occur	No No	Currently, the site is vacant and unused. This receptor is not present. The AUL for the property would prevent future exposure.
	Groundwater Incidental Ingestion Dermal contact Inhalation of VOCs	Yes; current exposures do not occur for all pathways; future exposures via ingestion and dermal contact will not occur; future exposures via inhalation of VOCs may occur.	No No No No	Currently, the site is vacant and unused. This receptor is not present. The AUL for the property would prevent future exposure. The commercial/industrial worker is considered the most exposed individual via the inhalation pathway; other potential receptors are not evaluated.
	Surface Soil Incidental Ingestion Dermal contact Inhalation of dust	No; current exposures do not occur and future exposures will not occur	No No No	Currently, the site is vacant and unused. This receptor is not present. The AUL for the property would prevent future exposure.
Maintenance Worker/Groundskeeper	Surface Soil Incidental Ingestion Dermal contact Inhalation of dust	No; current exposures do not occur and future exposures will not occur	No No No	Currently, the site is vacant and unused. This receptor is not present. The AUL for the property would prevent future exposure.



**TABLE 2**  
**IDENTIFICATION OF POTENTIAL EXPOSURE PATHWAYS FOR ON-SITE RECEPTORS**

The Goodyear Tire and Rubber Company  
New Bedford, MA

RECEPTOR	POTENTIAL EXPOSURE MEDIUM AND ROUTE	IS PATHWAY COMPLETE?	PATHWAY EVALUATED?	REASON FOR SELECTION OR EXCLUSION
Maintenance Worker/Groundskeeper	Subsurface Soil Incidental ingestion Dermal contact	No; current exposures do not occur and future exposures will not occur	No No	Currently, the site is vacant and unused. This receptor is not present. The AUL for the property would prevent future exposure.
	Groundwater Incidental ingestion Dermal contact	No; current exposures do not occur and future exposures will not occur	No No	Currently, the site is vacant and unused. This receptor is not present. The AUL for the property would prevent future exposure.
	Groundwater Inhalation of VOCs	No; current exposures do not occur and future exposures will not occur	No	No VOCs detected at MW-21; MW-21 is the only well located within 30 feet of the Fishermen's Club
Visitors at the Fishermen's Club	Groundwater Inhalation of VOCs	No; current exposures do not occur and future exposures will not occur	No	No VOCs detected at MW-21; MW-21 is the only well located within 30 feet of the Fishermen's Club
Active Recreation Participants	Surface Soil Incidental ingestion Dermal contact Inhalation of dust	No; current exposures do not occur and future exposures will not occur	No No No	Currently, the site is vacant and unused. This receptor is not present. The AUL for the property would prevent future exposure.
	Subsurface Soil Incidental ingestion Dermal contact	No; current exposures do not occur and future exposures will not occur	No No	Currently, the site is vacant and unused. This receptor is not present. The AUL for the property would prevent future exposure.
	Groundwater Incidental ingestion Dermal contact Inhalation of VOCs	Yes; current exposures do not occur for all pathways; future exposures via ingestion and dermal contact will not occur; future exposures via inhalation of VOCs may occur.	No No No	Currently, the site is vacant and unused. This receptor is not present. The AUL for the property would prevent future exposure. The commercial/industrial worker is considered the most exposed individual via the inhalation pathway; other potential receptors are not evaluated.
Daycare Children and Caregivers	Surface Soil Incidental ingestion Dermal contact Inhalation of dust	No; current exposures do not occur and future exposures will not occur	No No No	Currently, the site is vacant and unused. This receptor is not present. The AUL for the property would prevent future exposure.
	Subsurface Soil Incidental ingestion Dermal contact	No; current exposures do not occur and future exposures will not occur	No No	Currently, the site is vacant and unused. This receptor is not present. The AUL for the property would prevent future exposure.
	Groundwater Incidental ingestion Dermal contact Inhalation of VOCs	Yes; current exposures do not occur for all pathways; future exposures via ingestion and dermal contact will not occur; future exposures via inhalation of VOCs may occur.	No No No	Currently, the site is vacant and unused. This receptor is not present. The AUL for the property would prevent future exposure. The commercial/industrial worker is considered the most exposed individual via the inhalation pathway; other potential receptors are not evaluated.

**TABLE 2**  
**IDENTIFICATION OF POTENTIAL EXPOSURE PATHWAYS FOR ON-SITE RECEPTORS**

The Goodyear Tire and Rubber Company  
New Bedford, MA

RECEPTOR	POTENTIAL EXPOSURE MEDIUM AND ROUTE	IS PATHWAY COMPLETE?	PATHWAY EVALUATED?	REASON FOR SELECTION OR EXCLUSION
Child and Adult Residents (Multi-Unit Buildings)	Surface Soil Incidental ingestion Dermal contact Inhalation of dust	No; current exposures do not occur and future exposures will not occur	No No No	Currently, the site is vacant and unused. This receptor is not present. The AUL for the property would prevent future exposure.
	Subsurface Soil Incidental ingestion Dermal contact	No; current exposures do not occur and future exposures will not occur	No No	Currently, the site is vacant and unused. This receptor is not present. The AUL for the property would prevent future exposure.
	Groundwater Incidental ingestion Dermal contact Inhalation of VOCs	Yes; current exposures do not occur for all pathways; future exposures via ingestion and dermal contact will not occur; future exposures via inhalation of VOCs may occur.	No No No	Currently, the site is vacant and unused. This receptor is not present. The AUL for the property would prevent future exposure. The commercial/industrial worker is considered the most exposed individual via the inhalation pathway; other potential receptors are not evaluated.
Construction/Excavation Worker	Surface and Subsurface Soil Incidental ingestion Dermal contact Inhalation of dust	Yes; current exposures do not occur, but future exposures may occur	Yes Yes Yes	Construction workers could excavate surface and subsurface soils and be exposed in the future.
	Groundwater Incidental ingestion Dermal contact	Yes; current exposures do not occur, but future exposures via dermal contact may occur. Ingestion of groundwater does not occur.	No Yes	Construction workers could be exposed to groundwater while excavating subsurface soils in the future.
Utility Worker	Surface and Subsurface Soil Incidental ingestion Dermal contact Inhalation of dust	Yes; current and future exposures may occur.	Yes Yes Yes	Utility workers could excavate surface and subsurface soils and be exposed in the future.
	Groundwater Incidental ingestion Dermal contact	Yes; current and future exposures via dermal contact may occur. Ingestion of groundwater does not occur.	No Yes	Utility workers could be exposed to groundwater while excavating subsurface soils in the future.

**Notes:**  
AUL = Activity and Use Limitation  
VOC = Volatile Organic Compound

**TABLE 3**  
**SUMMARY STATISTICS FOR SURFACE SOIL**

The Goodyear Tire and Rubber Company  
New Bedford, MA

OHM of Concern <sup>1</sup>	Site Data/Concentration <sup>2</sup>					EPC <sup>3</sup>
	Frequency of Detection	Minimum SQL	Maximum SQL	Minimum Detection	Maximum Detection	Arithmetic Mean of All Samples
VOCs (mg/Kg)						
Chloroform	4 / 23	0.005 : 0.006		0.005	0.006	0.0032
Methylene chloride	14 / 23	0.005 : 0.006		0.006	0.031	0.0090
Styrene	1 / 23	0.005 : 0.006		0.037	0.037	0.0043
Tetrachloroethene	1 / 23	0.005 : 0.006		0.058	0.058	0.0052
SVOCs (mg/kg)						
Anthracene	14 / 21	0.33 : 0.37		0.72	21	3.7
Benzo(a)anthracene	16 / 21	0.33 : 0.363		0.49	32	5.8
Benzo(a)pyrene	16 / 21	0.33 : 0.363		0.46	32	5.4
Benzo(b)fluoranthene	15 / 21	0.33 : 0.726		0.49	45	6.6
Benzo(g,h,i)perylene	9 / 21	0.33 : 3.63		0.88	10	2.1
Benzo(k)fluoranthene	11 / 21	0.33 : 3.63		0.53	11	2.4
Chrysene	16 / 21	0.33 : 0.363		0.47	32	5.8
Dibenzo(a,h)anthracene	1 / 21	0.33 : 9.57		2.2	2.2	1.1
Dibenzofuran	1 / 21	0.33 : 9.57		2.7	2.7	1.1
Fluoranthene	16 / 21	0.33 : 0.363		1.1	87	15
Fluorene	2 / 21	0.33 : 8.58		2.80	12	1.5
Indeno(1,2,3-cd)pyrene	9 / 21	0.33 : 3.63		0.55	15	2.3
Naphthalene	4 / 21	0.33 : 8.58		0.54	12	1.6
Phenanthrene	16 / 21	0.33 : 0.363		1.2	88	15
Pyrene	16 / 21	0.33 : 0.363		1	65	12
TPH (mg/Kg)	18 / 23	20 : 22		170	6,400	951
By EPA Method 8100 (GC/FID)						

**Notes:**

1 Selection of OHM of Concern for this medium is presented in Table 7-3.

2 Samples included in Site Data set are presented in Table 7-1.

Duplicate samples were averaged with their original samples prior to calculation of summary statistics.

**TABLE 3**  
**SUMMARY STATISTICS FOR SURFACE SOIL**

The Goodyear Tire and Rubber Company  
New Bedford, MA

OHM of Concern <sup>1</sup>	Site Data/Concentration <sup>2</sup>					EPC <sup>3</sup>
	Frequency of Detection	Minimum SQL	Maximum SQL	Minimum Detection	Maximum Detection	Arithmetic Mean of All Samples

The arithmetic mean represents the arithmetic average of all sample results, with one-half the SQL used as the value for non-detects.

<sup>3</sup> The EPC is the arithmetic mean concentration unless the arithmetic mean concentration exceeds the maximum detected concentration (MADEP, 1995). For these OHM, the maximum detected concentration is used as the EPC.

EPC = Exposure Point Concentration

OHM = Oil or Hazardous Material

SQL = Sample Quantitation Limit

MADEP (1995): Guidance for Disposal Site Risk Characterization - In Support of the Massachusetts Contingency Plan (WSC/ORS-95-141, July).

**TABLE 4**  
**SUMMARY STATISTICS FOR SUBSURFACE SOIL**

The Goodyear Tire and Rubber Company  
New Bedford, MA

OHM of Concern <sup>1</sup>	Site Data/Concentration <sup>2</sup>					EPC <sup>3</sup>
	Frequency of Detection	Minimum SQL	Maximum SQL	Minimum Detection	Maximum Detection	Arithmetic Mean of All Samples
VOCs (mg/Kg)	1 / 7	0.005 : 0.02		0.032	0.032	0.0084
1,2-Dichloroethene (Total)	4 / 42	0.005 : 0.02		0.005	0.006	0.0033
Chloroform	26 / 42	0.005 : 0.02		0.006	0.035	0.0095
Methylene chloride	1 / 42	0.005 : 0.02		0.037	0.037	0.0038
Styrene	3 / 42	0.005 : 0.011		0.02	0.095	0.0068
Tetrachloroethene						
SVOCs (mg/kg)	1 / 34	0.33 : 9.57		1.8	1.8	0.9
Acenaphthene	18 / 34	0.33 : 0.693		0.56	21	2.8
Anthracene	20 / 34	0.33 : 0.693		0.49	32	4.5
Benzo(a)anthracene	20 / 34	0.33 : 0.693		0.46	32	4.2
Benzo(a)pyrene	19 / 34	0.33 : 0.726		0.49	45	5.0
Benzo(b)fluoranthene	12 / 34	0.33 : 3.63		0.88	10	1.8
Benzo(g,h,i)perylene	14 / 34	0.33 : 3.63		0.53	11	1.9
Benzo(k)fluoranthene	20 / 34	0.33 : 0.693		0.47	32	4.4
Chrysene	1 / 34	0.33 : 9.57		2.2	2.2	0.9
Dibenzo(a,h)anthracene	1 / 34	0.33 : 9.57		2.7	2.7	0.9
Dibenzofuran	21 / 34	0.33 : 0.693		0.4	87	11
Fluoranthene	3 / 34	0.33 : 8.58		2.40	12	1.2
Fluorene	12 / 34	0.33 : 3.63		0.55	15	1.8
Indeno(1,2,3-cd)pyrene	5 / 34	0.33 : 8.58		0.54	12	1.2
Naphthalene	21 / 34	0.33 : 0.693		0.3	88	11
Phenanthrene	20 / 34	0.33 : 0.693		1	65	9.0
Pyrene						
Metals (mg/Kg)	7 / 7	NA		5.1	270	56
Lead						
TPH (mg/kg)	28 / 42	20 : 44		120	6,400	730
By EPA Method 8100 (GC/FID)						

**TABLE 4**  
**SUMMARY STATISTICS FOR SUBSURFACE SOIL**

The Goodyear Tire and Rubber Company  
New Bedford, MA

OHM of Concern <sup>1</sup>	Site Data/Concentration <sup>2</sup>					EPC <sup>3</sup>
	Frequency of Detection	Minimum SQL	Maximum SQL	Minimum Detection	Maximum Detection	Arithmetic Mean of All Samples

**Notes:**

1 Selection of OHM of Concern for this medium is presented in Table 7-4.

2 Samples included in Site Data set are presented in Table 7-1.

Duplicate samples were averaged with their original samples prior to calculation of summary statistics.

The arithmetic mean represents the arithmetic average of all sample results, with one-half the SQL used as the value for non-detects.

3 The EPC is the arithmetic mean concentration unless the arithmetic mean concentration exceeds the maximum detected concentration (MADEP, 1995). For these OHM, the maximum detected concentration is used as the EPC.

EPC = Exposure Point Concentration

OHM = Oil or Hazardous Material

SQL = Sample Quantitation Limit

bgs = below ground surface

MADEP (1995): Guidance for Disposal Site Risk Characterization - In Support of the Massachusetts Contingency Plan (WSC/ORS-95-141, July).

**TABLE 5**  
**SUMMARY STATISTICS FOR GROUNDWATER**

The Goodyear Tire and Rubber Company  
New Bedford, MA

OHM of Concern <sup>1</sup>	Frequency of Detection	Site Data/Concentration <sup>2</sup>				
		Minimum SQL	Maximum SQL	Minimum Detection	Maximum Detection	Arithmetic Mean of All Samples
VOCs (ug/L)						
1,1-Dichloroethane	3 / 54	1 : 13		1	2	2.19
1,2-Dichloroethene (Total) <sup>4</sup>	1 / 14	5 : 13		39	39	5.93
1,4-Dichlorobenzene	1 / 54	1 : 13		6	6	2.19
4-Methyl-2-Pentanone	1 / 54	10 : 125		120	120	22.5
Acetone	1 / 54	20 : 250		240	240	45.8
Benzene	6 / 54	1 : 10		1	27	2.64
Chloroform	3 / 54	1 : 13		1	4	2.20
cis-1,2-Dichloroethene	3 / 40	1 : 10		2	4	1.80
Isopropylbenzene	2 / 21	1 : 1		1	1	0.55
Methyl-t-butyl ether	8 / 54	1 : 13		1	48	3.59
Methylene Chloride	9 / 54	1 : 13		6.25	17	3.22
Toluene	1 / 54	1 : 13		140	140	4.67
Trichloroethene	1 / 54	1 : 13		7	7	2.24
Trichlorofluoromethane	11 / 54	1 : 13		1	130	7.22
Xylenes/Xylenes Total	2 / 54	1 : 13		2	7	2.23
SVOCs (ug/L)						
4-Methylphenol (p-cresol)	3 / 51	10 : 28		19	300	12.0
Benzoic Acid	2 / 51	10 : 140		310	630	42.9
bis(2-ethylhexyl)phthalate	2 / 51	10 : 110		54	89	9.15
Naphthalene	7 / 63	10 : 110		12	38	7.89
Phenol	1 / 51	10 : 110		80	80	7.63
Inorganics (ug/L)						
Dissolved Iron	4 / 4	NA		73	2800	1188
Dissolved Manganese	4 / 4	NA		1500	3100	2325
Total Iron	4 / 4	NA		870	55000	14543
Total Manganese	4 / 4	NA		2100	3300	2650
EPH (ug/L)						
C11-C22 Aromatics	1 / 9	100 : 100		970	970	152
C19-C36 Aliphatics	1 / 9	100 : 100		2300	2300	300
C9-C18 Aliphatics	1 / 9	100 : 100		470	470	97
Unadjusted C11-C22 Aromatics	1 / 9	100 : 100		970	970	152
TPH (ug/L)						
By EPA Method 8100 (GC/FID)	29 / 50	500 : 500		500	26000	5135

**TABLE 5**  
**SUMMARY STATISTICS FOR GROUNDWATER**

The Goodyear Tire and Rubber Company  
New Bedford, MA

OHM of Concern <sup>1</sup>	Site Data/Concentration <sup>2</sup>				Arithmetic Mean of All Samples
	Frequency of Detection	Minimum SQL	Maximum SQL	Minimum Detection	Maximum Detection

**Notes:**

- 1 Selection of OHM of Concern for this medium is presented in Table 7-5.
- 2 Samples included in Site Data set are presented in Table 7-2.  
Duplicate samples were averaged with their original samples prior to calculation of summary statistics.  
The arithmetic mean represents the arithmetic average of all sample results, with one-half the SQL used as the value for non-detects.
- 3 UCL = Upper Concentration Limit in Groundwater (310 CMR 40.0996; 10/31/97)
- 4 The UCL for cis-1,2-Dichloroethene used for 1,2-Dichloroethene (total).  
OHM = Oil or Hazardous Material  
SQL = Sample Quantitation Limit  
NA = Not Available/Not Applicable



**TABLE 6**  
**SUMMARY OF HUMAN HEALTH RISKS FOR CURRENT AND FUTURE LAND USE**

The Goodyear Tire and Rubber Company  
New Bedford, MA

Receptor	Exposure Medium	Exposure Point	Exposure Pathway	Cancer Risk ELCR	Non-cancer risk HI
Child Trespasser	Surface Soil	SOILEP1	Ingestion	3E-07	0.0001
			Dermal Contact	6E-07	0.0002
			Fugitive Dust Inhalation	NA	NA
			<b>Total Receptor Risk:</b>	<b>9E-07</b>	<b>0.0003</b>
Commercial/Industrial Worker	Groundwater	All groundwater	Inhalation of VOCs	3E-07	0.009
			<b>Total Receptor Risk:</b>	<b>3E-07</b>	<b>0.009</b>
Construction Worker	Soil 0-11 feet bgs	SOILEP2	Ingestion	3E-07	0.04
			Dermal Contact	1E-07	0.006
			Fugitive Dust Inhalation	6E-10	0.001
			<b>Total Receptor Risk:</b>	<b>4E-07</b>	<b>0.05</b>
Utility Worker	Groundwater	All groundwater	Ingestion	0E+00	0.0
			Dermal Contact	2E-07	0.9
			<b>Total Receptor Risk:</b>	<b>2E-07</b>	<b>0.9</b>
	Soil 0-11 feet bgs	SOILEP2	Ingestion	3E-08	0.04
			Dermal Contact	1E-08	0.006
			Fugitive Dust Inhalation	5E-11	0.001
			<b>Total Receptor Risk:</b>	<b>4E-08</b>	<b>0.05</b>
	Groundwater	All groundwater	Ingestion	0E+00	0.0
			Dermal Contact	2E-08	0.9
			<b>Total Receptor Risk:</b>	<b>2E-08</b>	<b>0.9</b>

**Notes:**

Risk calculation spreadsheets are presented in Attachment E.

bgs = below ground surface

HI = Hazard Index

ELCR = Excess lifetime cancer risk



## **APPENDIX A**

**AUL**



Massachusetts Department of Environmental Protection  
Bureau of Waste Site Cleanup

BWSC-113

ACTIVITY & USE LIMITATION (AUL) TRANSMITTAL FORM

Release Tracking Number

Pursuant to 310 CMR 40.1056 and 40.1070 - 40.1084 (Subpart J)

4 - 00688

A. LOCATION OF DISPOSAL SITE AND PROPERTY SUBJECT TO AUL:

Disposal Site Name: Former Manufacturing Site  
Street: 545 Orchard Street Location Aid: \_\_\_\_\_  
City/Town: New Bedford ZIP Code: 02740-0000  
Address of property subject to AUL, if different than above. Street: \_\_\_\_\_  
City/Town: \_\_\_\_\_ ZIP Code: \_\_\_\_\_

☐ Check here if this Disposal Site is Tier Classified.

If the Disposal Site subject to the AUL is also subject to a Tier I Permit, provide the Permit Number: \_\_\_\_\_

Related Release Tracking Numbers affected by this AUL: \_\_\_\_\_

B. THIS FORM IS BEING USED TO: (check one)

- ☒ Submit a certified copy of a Notice of Activity and Use Limitation, pursuant to 310 CMR 40.1074 (complete all sections of this form).  
☐ Submit a certified copy of an Amended Notice of Activity and Use Limitation, pursuant to 310 CMR 40.1081(4) (complete all sections of this form).  
☐ Submit a certified copy of a Termination of a Notice of Activity and Use Limitation, pursuant to 310 CMR 40.1083(3) (complete all sections of this form).  
☐ Submit a certified copy of a Grant of Environmental Restriction, pursuant to 310 CMR 40.1071, (complete all sections of this form).  
☐ Submit a certified copy of an Amendment of Environmental Restriction, pursuant to 310 CMR 40.1081(3) (complete all sections of this form).  
☐ Submit a certified copy of a Release of Environmental Restriction, pursuant to 310 CMR 40.1083(2) (complete all sections of this form).

You must attach all supporting documentation for the use of form indicated, including copies of any Legal Notices and Notices to Public Officials required by 310 CMR 40.1400.

C. AUL INFORMATION:

Date AUL was recorded and/or registered with Registry of Deeds and/or Land Registration Office: \_\_\_\_\_  
Name of Registry of Deeds and/or Land Registration Office where AUL was recorded and/or registered: Bristol  
Book and Page Number and/or Document Number of recorded and/or registered AUL: \_\_\_\_\_

D. PERSON SUBMITTING AUL TRANSMITTAL FORM:

Name of Organization: The Goodyear Tire & Rubber Company  
Name of Contact: Richard Laubacher Title: Project Manager  
Street: 1144 E. Market Street  
City/Town: Akron State: OH ZIP Code: 44316-0000  
Telephone: 330-796-2698 Ext.: \_\_\_\_\_ FAX: (optional) \_\_\_\_\_

E. OWNER OF PROPERTY, IF NOT PERSON SUBMITTING AUL TRANSMITTAL FORM:

Provide a mailing address for the owner of the property if that person is not submitting the AUL Transmittal Form.  
Provide addresses for additional owners on an attachment.

Name of Organization: \_\_\_\_\_ Title: \_\_\_\_\_  
Name of Contact: \_\_\_\_\_  
Street: \_\_\_\_\_  
City/Town: \_\_\_\_\_ State: \_\_\_\_\_ ZIP Code: \_\_\_\_\_  
Telephone: \_\_\_\_\_ Ext.: \_\_\_\_\_ FAX: (optional) \_\_\_\_\_



Massachusetts Department of Environmental Protection  
Bureau of Waste Site Cleanup

BWSC-113

ACTIVITY & USE LIMITATION (AUL) TRANSMITTAL FORM

Pursuant to 310 CMR 40.1056 and 40.1070 - 40.1084 (Subpart J)

Release Tracking  
Number

4 - 00688

F. RELATIONSHIP TO DISPOSAL SITE OF PERSON SUBMITTING AUL TRANSMITTAL FORM: (check one)

☒ RP or PRP Specify: ☒ Owner ☐ Operator ☐ Generator ☐ Transporter ☐ Other RP or PRP:

☐ Fiduciary, Secured Lender or Municipality with Exempt Status (as defined by M.G.L. c. 21E, s. 2)

☐ Agency or Public Utility on a Right of Way (as defined by M.G.L. c. 21E, s. 5(j))

☐ Any Other Person Submitting AUL Specify Relationship: \_\_\_\_\_

G. CERTIFICATION OF PERSON SUBMITTING AUL TRANSMITTAL FORM:

I, Richard Laubacher, attest under the pains and penalties of perjury (i) that I have personally examined and am familiar with the information contained in this submittal, including any and all documents accompanying this transmittal form, (ii) that, based on my inquiry of those individuals immediately responsible for obtaining the information, the material information contained in this submittal is, to the best of my knowledge and belief, true, accurate and complete, and (iii) that I am fully authorized to make this attestation on behalf of the entity legally responsible for this submittal. I/the person or entity on whose behalf this submittal is made am/is aware that there are significant penalties, including, but not limited to, possible fines and imprisonment, for willfully submitting false, inaccurate, or incomplete information.

By: Richard C. Laubacher Title: Project Manager  
(signature)

For The Goodyear Tire & Rubber Company Date: 4/7/00  
(print name of person or entity recorded in Section D)

Enter address of person providing certification, if different from address recorded in Section D:

Street: \_\_\_\_\_

City/Town: \_\_\_\_\_ State: \_\_\_\_\_ ZIP Code: \_\_\_\_\_

Telephone: \_\_\_\_\_ Ext. \_\_\_\_\_ FAX: (optional) \_\_\_\_\_

YOU MUST COMPLETE ALL RELEVANT SECTIONS OF THIS FORM OR DEP MAY RETURN THE DOCUMENT AS INCOMPLETE. IF YOU SUBMIT AN INCOMPLETE FORM, YOU MAY BE PENALIZED FOR MISSING A REQUIRED DEADLINE, AND YOU MAY INCUR ADDITIONAL COMPLIANCE FEES.



Harding Lawson Associates

P.O. Box 7050  
Portland, ME 04112-7050  
(207) 775-5401

WELLS FARGO BANK

11-24  
12100

No. 8100001290

CHECK DATE 11-APR-00 CHECK NUMBER 81-1290 CHECK AMOUNT \$1,050.00

PAY TO THE ORDER OF  
\$1,050.00  
Commonwealth of Massachusetts

*Julia Tenney*  
\_\_\_\_\_  
AMOUNTS IN EXCESS OF \$500.00  
REQUIRE TWO SIGNATURES

⑈8100001290⑈ ⑆121000248⑆4518 114038⑈

P.O. Box 7050  
Portland, ME 04112-7050  
(207) 775-5401

No. 8100001290

Harding Lawson Associates

DATE	INVOICE NO.	DESCRIPTION	AMOUNT
11-APR-00	81-1290	AUL - Former Manufacturing Site, 545 Orchard St, New Bedford	\$1,050.00
		AUL Transmittal Form BWSC-113	
		PN: 44056	
		TN: 0234700	



Massachusetts Department of Environmental Protection  
Bureau of Waste Site Cleanup

BWSC-114

ACTIVITY & USE LIMITATION (AUL) OPINION FORM

Pursuant to 310 CMR 40.1070 - 40.1084 (Subpart J)

Release Tracking  
Number

4 - 688

COMPLETE THIS FORM AND ATTACH AS AN EXHIBIT TO THE AUL DOCUMENT TO BE RECORDED AND/OR REGISTERED WITH THE REGISTRY OF DEEDS AND/OR LAND REGISTRATION OFFICE.

A. LOCATION OF DISPOSAL SITE AND PROPERTY SUBJECT TO AUL:

Disposal Site Former Manufacturing Site  
Name: \_\_\_\_\_  
Street: 545 Orchard Street Location Aid: \_\_\_\_\_  
City/Town: New Bedford ZIP Code: 02740-0000  
Address of property subject to AUL, if different than above. Street: \_\_\_\_\_  
City/Town: \_\_\_\_\_ ZIP Code: \_\_\_\_\_

B. THIS FORM IS BEING USED TO: (check one)

- ☒ Provide the LSP Opinion for a Notice of Activity and Use Limitation, pursuant to 310 CMR 40.1074 (complete all sections of this form).
- ☐ Provide the LSP Opinion for an Amended Notice of Activity and Use Limitation, pursuant to 310 CMR 40.1081(4) (complete all sections of this form).
- ☐ Provide the LSP Opinion for a Termination of a Notice of Activity and Use Limitation, pursuant to 310 CMR 40.1083(3) (complete all sections of this form).
- ☐ Provide the LSP Opinion for a Grant of Environmental Restriction, pursuant to 310 CMR 40.1071, (complete all sections of this form).
- ☐ Provide the LSP Opinion for an Amendment of Environmental Restriction, pursuant to 310 CMR 40.1081(3) (complete all sections of this form).
- ☐ Provide the LSP Opinion for a Release of Environmental Restriction, pursuant to 310 CMR 40.1083(2) (complete all sections of this form).

C. LSP OPINION:

I attest under the pains and penalties of perjury that I have personally examined and am familiar with this submittal, including any and all documents accompanying this submittal. In my professional opinion and judgment based upon application of (i) the standard of care in 309 CMR 4.02(1), (ii) the applicable provisions of 309 CMR 4.02(2) and (3), and (iii) the provisions of 309 CMR 4.03(5), to the best of my knowledge, information and belief,

> if Section B indicates that a Notice of Activity and Use Limitation is being registered and/or recorded, the Activity and Use Limitation that is the subject of this submittal (i) is being provided in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000 and (ii) complies with 310 CMR 40.1074(1)(b);

> if Section B indicates that an Amended Notice of Activity and Use Limitation is being registered and/or recorded, the Activity and Use Limitation that is the subject of this submittal (i) is being provided in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000 and (ii) complies with 310 CMR 40.1080(1) and 40.1081(1);

> if Section B indicates that a Termination of a Notice of Activity and Use Limitation is being registered and/or recorded, the Activity and Use Limitation that is the subject of this submittal (i) is being provided in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000 and (ii) complies with 310 CMR 40.1083(3)(a);

> if Section B indicates that a Grant of Environmental Restriction is being registered and/or recorded, the Activity and Use Limitation that is the subject of this submittal (i) is being provided in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000 and (ii) complies with 310 CMR 40.1071(1)(b);

> if Section B indicates that an Amendment to a Grant of Environmental Restriction is being registered and/or recorded, the Activity and Use Limitation that is the subject of this submittal (i) is being provided in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000 and (ii) complies with 310 CMR 40.1080(1) and 40.1081(1);

> if Section B indicates that a Release of Grant of Environmental Restriction is being registered and/or recorded, the Activity and Use Limitation that is the subject of this submittal (i) is being provided in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000 and (ii) complies with 310 CMR 40.1083(3)(a).

I am aware that significant penalties may result, including, but not limited to, possible fines and imprisonment, if I submit information which I know to be false, inaccurate or materially incomplete.

- ☐ Check here if the Response Action(s) on which this opinion is based, if any, are (were) subject to any order(s), permit(s) and/or approval(s) issued by DEP or EPA. If the box is checked, you MUST attach a statement identifying the applicable provisions thereof.

SECTION C IS CONTINUED ON THE NEXT PAGE.



Massachusetts Department of Environmental Protection  
Bureau of Waste Site Cleanup

BWSC-114

ACTIVITY & USE LIMITATION (AUL) OPINION FORM

Pursuant to 310 CMR 40.1070 - 40.1084 (Subpart J)

Release Tracking  
Number

4 - 688

C. LSP OPINION: (continued)

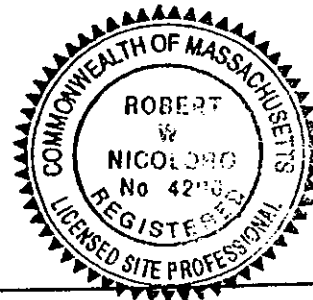
LSP Name: Robert Nicoloro LSP #: 4290 Stamp:

Telephone 781-245-6606 Ext.: 5632

FAX: 781-246-5060

LSP Signature: [Signature]

Date: 4/12/00



YOU MUST COMPLETE ALL RELEVANT SECTIONS OF THIS  
FORM OR DEP MAY FIND THE DOCUMENT TO BE INCOMPLETE.





WINSER ST.

JENKINS ST.

SAGAMORE ST.

MH-3

MH-4

BOLTON

HOWLAND PLACE  
RETAIL MALL

MH-2

FORMER  
BLDG.  
NO. 5

FORMER 3,000  
GAL. TANKS

FORMER  
BLDG.  
NO. 4

FORMER  
HEADER  
BLDG.

FORMER  
BLDG.  
NO. 3

FORMER 10,000  
GAL. TANKS

FORMER  
100,000 GAL.  
FUEL OIL TANKS

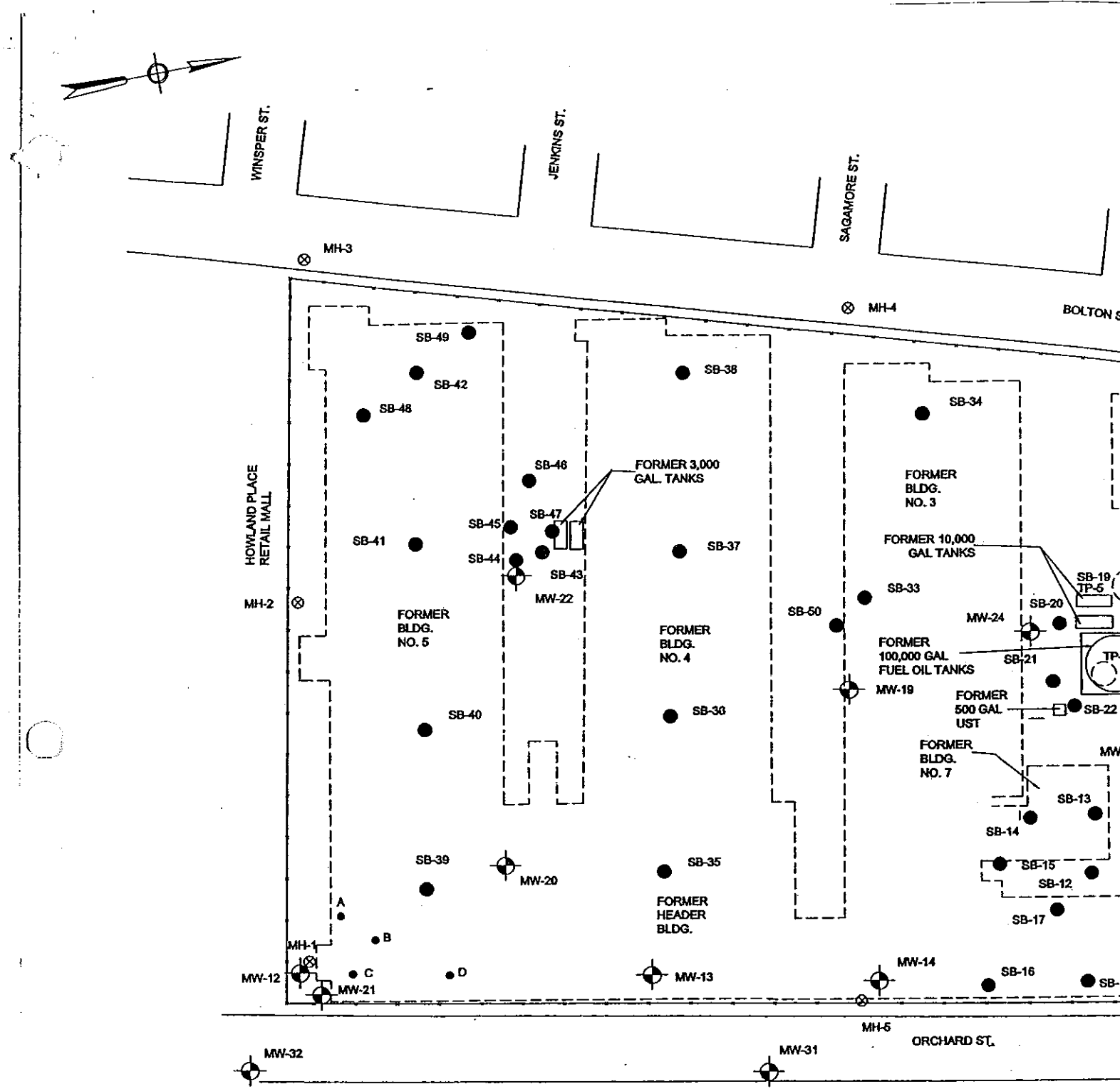
FORMER  
500 GAL.  
UST

FORMER  
BLDG.  
NO. 7

MH-1

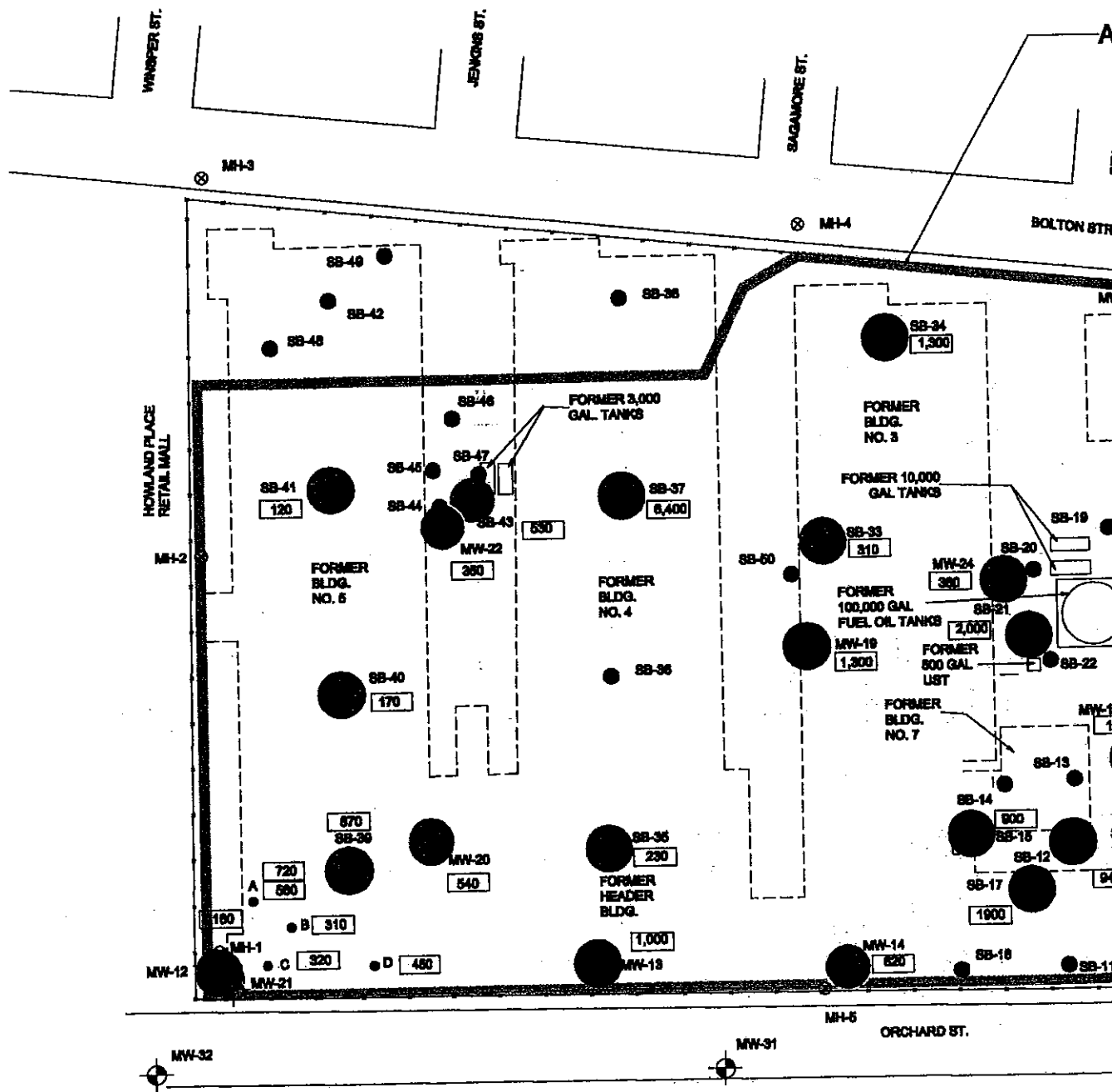
MH-5

ORCHARD ST.



2

SURVEY DATA BASED ON PLAN BY TOPO-METRICS, INC. (5/13/96)



SB-43 8-8' 4/2/98  
Semi-volatile Organic Compounds  
(Concentration in ug/kg)

Anthracene	730
Benzo(a)anthracene	1,700
Benzo(b)fluoranthene	800
Benzo(k)fluoranthene	850
Benzo(a,h)pyrene	1,500
Benzo(a,i)pyrene	1,900
Chrysene	1,700
Fluoranthene	3,800
Indeno(1,2,3-cd)pyrene	920
Phenanthrene	3,100
Pyrene	3,400

SB-37 2-4' 4/2/98  
Semi-volatile Organic Compounds  
(Concentration in ug/kg)

Anthracene	21,000
Benzo(a)anthracene	32,000
Benzo(b)fluoranthene	45,000
Benzo(k)fluoranthene	11,000
Benzo(a,h)pyrene	9,800
Benzo(a,i)pyrene	32,000
Chrysene	32,000
Fluoranthene	87,000
Indeno(1,2,3-cd)pyrene	12,000
Naphthalene	12,000
Phenanthrene	68,000
Pyrene	68,000

SB-34 0-2' 4/2/98  
Semi-volatile Organic Compounds  
(Concentration in ug/kg)

Anthracene	2,000
Benzo(a)anthracene	4,200
Benzo(b)fluoranthene	5,100
Benzo(k)fluoranthene	2,000
Benzo(a,h)pyrene	1,800
Benzo(a,i)pyrene	4,100
Chrysene	4,500
Fluoranthene	2,200
Indeno(1,2,3-cd)pyrene	10,000
Naphthalene	1,900
Phenanthrene	8,500
Pyrene	8,500

MW-24 0-2' 4/17/98  
Semi-volatile Organic Compounds  
(Concentration in ug/kg)

Anthracene	720
Benzo(a)anthracene	1,400
Benzo(b)fluoranthene	1,700
Benzo(k)fluoranthene	1,700
Benzo(a,h)pyrene	1,300
Benzo(a,i)pyrene	1,300
Chrysene	1,500
Fluoranthene	3,300
Indeno(1,2,3-cd)pyrene	550
Naphthalene	540
Phenanthrene	3,500
Pyrene	3,000

MW-23 2-4' 4/12/98  
Semi-volatile Organic Compounds  
(Concentration in ug/kg)

Anthracene	1,000
Benzo(a)anthracene	1,000
Benzo(b)fluoranthene	1,000
Benzo(k)fluoranthene	1,000
Benzo(a,h)pyrene	1,000
Benzo(a,i)pyrene	1,000
Chrysene	1,000
Fluoranthene	1,000
Indeno(1,2,3-cd)pyrene	1,000
Naphthalene	1,000
Phenanthrene	1,000
Pyrene	1,000

SB-41 4-6' 4/2/98  
Semi-volatile Organic Compounds  
(Concentration in ug/kg)

Anthracene	500
Benzo(a)anthracene	850
Benzo(b)fluoranthene	780
Benzo(k)fluoranthene	750
Chrysene	730
Fluoranthene	2,100
Phenanthrene	3,000
Pyrene	1,800

MW-22 4-6' 4/15/98  
Semi-volatile Organic Compounds  
(Concentration in ug/kg)

Anthracene	12,000
Benzo(a)anthracene	20,000
Benzo(b)fluoranthene	20,000
Benzo(k)fluoranthene	9,600
Benzo(a,h)pyrene	9,900
Benzo(a,i)pyrene	18,000
Chrysene	18,000
Fluoranthene	48,000
Indeno(1,2,3-cd)pyrene	7,900
Phenanthrene	39,000
Pyrene	40,000

SB-40 2-4' 4/2/98  
Semi-volatile Organic Compounds  
(Concentration in ug/kg)

Benzo(a)anthracene	700
Benzo(b)fluoranthene	540
Benzo(k)fluoranthene	600
Chrysene	850
Fluoranthene	1,400
Phenanthrene	1,200
Pyrene	1,500

SB-39 1-3' 4/2/98  
Semi-volatile Organic Compounds  
(Concentration in ug/kg)

Anthracene	2,200
Benzo(a)anthracene	5,400
Benzo(b)fluoranthene	8,700
Benzo(k)fluoranthene	2,700
Benzo(a,h)pyrene	2,100
Benzo(a,i)pyrene	5,800
Chrysene	5,200
Fluoranthene	15,000
Indeno(1,2,3-cd)pyrene	2,700
Naphthalene	3,000
Phenanthrene	17,000
Pyrene	12,000

MW-21 2.5-4.5' 4/11/98  
Semi-volatile Organic Compounds  
(Concentration in ug/kg)

Fluoranthene	370
Phenanthrene	510R

SB-35 0-2' 4/2/98  
Semi-volatile Organic Compounds  
(Concentration in ug/kg)

Anthracene	1,100
Benzo(a)anthracene	2,100
Benzo(b)fluoranthene	880
Benzo(k)fluoranthene	1,800
Chrysene	2,100
Fluoranthene	4,200
Indeno(1,2,3-cd)pyrene	1,200
Phenanthrene	4,300
Pyrene	4,100

MW-13 0-2' 4/15/98  
Semi-volatile Organic Compounds  
(Concentration in ug/kg)

Anthracene	5,300
Benzo(a)anthracene	9,800
Benzo(b)fluoranthene	8,800
Benzo(k)fluoranthene	3,900
Benzo(a,h)pyrene	7,100
Benzo(a,i)pyrene	7,700
Chrysene	23,000
Fluoranthene	23,000
Phenanthrene	17,000
Pyrene	17,000

MW-18 2-4' 4/17/98  
Semi-volatile Organic Compounds  
(Concentration in ug/kg)

Anthracene	5,800
Benzo(a)anthracene	7,800
Benzo(b)fluoranthene	8,700
Benzo(k)fluoranthene	5,800
Benzo(a,h)pyrene	7,400
Chrysene	7,400
Fluoranthene	20,000
Naphthalene	3,800
Phenanthrene	24,000
Pyrene	15,000

MW-14 0-2' 4/11/98  
Semi-volatile Organic Compounds  
(Concentration in ug/kg)

Anthracene	2,400
Benzo(a)anthracene	3,200
Benzo(b)fluoranthene	3,800
Benzo(k)fluoranthene	1,600
Benzo(a,h)pyrene	3,700
Benzo(a,i)pyrene	3,200
Chrysene	8,600
Fluoranthene	1,700
Indeno(1,2,3-cd)pyrene	10,000
Phenanthrene	7,200
Pyrene	7,200

MW-11 Semi-volatile Organic Compounds  
(Concentration in ug/kg)

Anthracene	1,000
Benzo(a)anthracene	1,000
Benzo(b)fluoranthene	1,000
Benzo(k)fluoranthene	1,000
Benzo(a,h)pyrene	1,000
Benzo(a,i)pyrene	1,000
Chrysene	1,000
Fluoranthene	1,000
Indeno(1,2,3-cd)pyrene	1,000
Naphthalene	1,000
Phenanthrene	1,000
Pyrene	1,000

WILSON ST.

HOWLAND PLACE  
RETAIL MALL

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